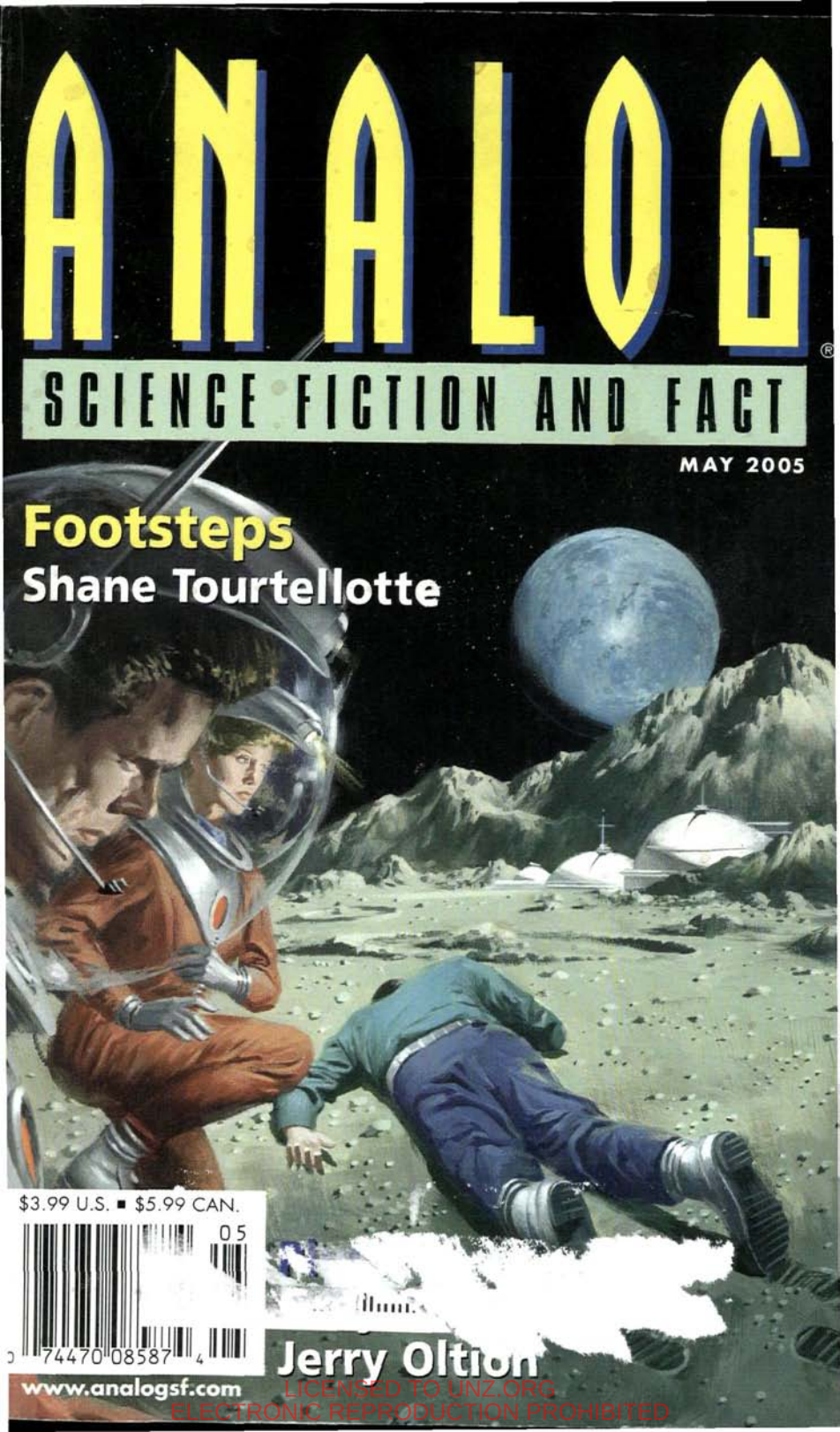
ANALOG

SCIENCE FICTION AND FACT

MAY 2005

Footsteps
Shane Tourtellotte



$3.99 U.S. ■ $5.99 CAN.

05

74470 08587 4

Jerry Oltion

www.analogsf.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

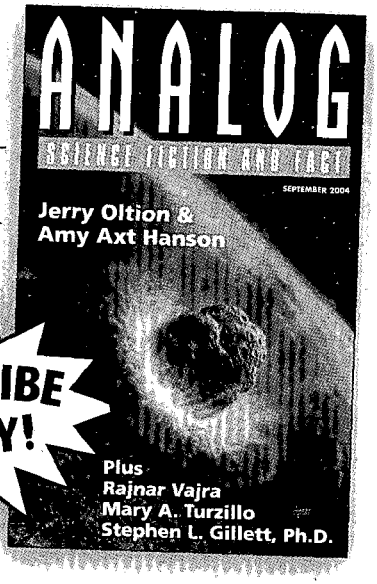
DON'T MISS AN ISSUE!

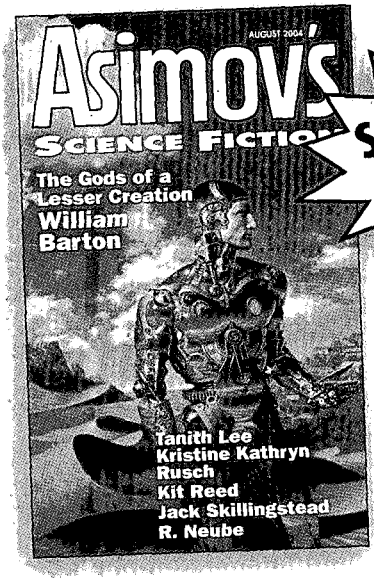
Subscribe today and have every intriguing issue of entertaining science fiction delivered direct to your door!

Analog Science Fiction and Fact

An unbeatable combination of stimulating fiction stories, provocative editorials, and fascinating articles, all solidly rooted in science fact. 1 year (12 issues*), just $32.97!

Visit **www.analogsf.com** →





SUBSCRIBE TODAY!

Asimov's Science Fiction

Novellas and short stories from the leading science fiction and fantasy writers. Plus, candid, no-holds-barred book reviews and guest editorials. 1 year (12 issues*), just $32.97!

← Visit **www.asimovs.com**

To order by charge card, call

TOLL-FREE: 1-800-220-7443 (9am - 5pm EST)

or mail your name, address, order, and payment to:

Dell Magazines Direct
6 Prowitt St., Suite S • Norwalk, CT 06855-1220

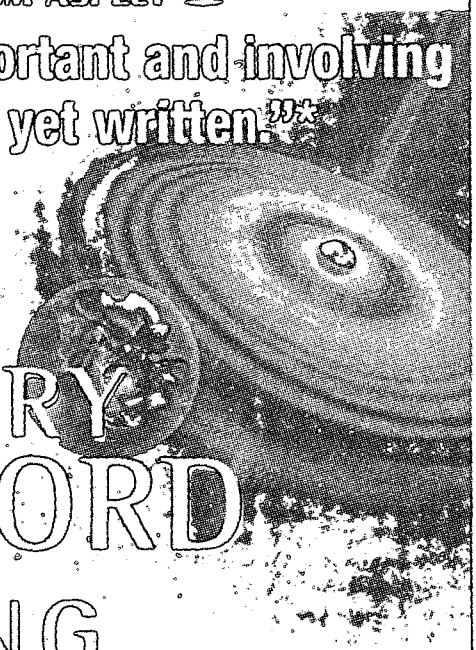
Please allow 4 to 6 weeks for delivery of your first issue. Outside U.S.A.: Add $10 per year, per subscription for shipping and handling. All orders must be paid in U.S. funds. *We publish double issues twice a year which count as four issues toward your subscription. Expires 9/30/06.

35C-NSFSLL

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

NEW FROM ASPECT

"The most important and involving SF series yet written."*



GREGORY BENFORD

SAILING BRIGHT ETERNITY

Book 6 in Nebula Award-winner Gregory Benford's classic Galactic Center series

Can the human race survive?

The final assault on mankind has begun. Hunted through space and time by relentless assassins, three men are the last hope—with no idea that they carry the only weapon that can save humanity....

"A worthy conclusion." —*Publishers Weekly*

"A dazzling finish to one of the best hard-SF sagas ever written." —*Booklist*

"As at the end of any great symphony, one can only stand and applaud." —*Asimov's Science Fiction*

Where Imagination Knows No Bounds

Available in paperback Read an Excerpt Online at www.twbookmark.com Time Warner Book Group

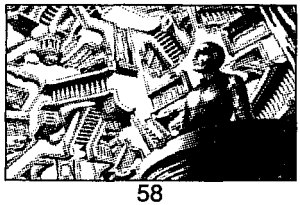
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ANALOG®

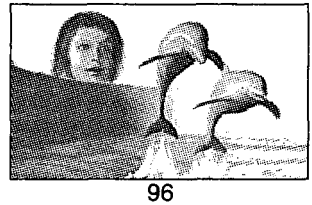
SCIENCE FICTION AND FACT

Vol. CXXV No. 5
May 2005

Next Issue on Sale
April 12, 2005



58



96

NOVELETTES

FOOTSTEPS, Shane Tourtellotte ____ 8
DEATH AS A WAY OF LIFE, Grey Rollins ____ 39
HIGH MOON, Joe Schembrie ____ 110

SHORT STORIES

THE INN AT MOUNT EITHER, James Van Pelt ____ 58
TAINTED, Jerry Oltion ____ 78
TOMORROW'S STRAWBERRIES, Richard A. Lovett ____ 84
SMILING VERMIN, Ekaterina G. Sedia & David Bartell ____ 96

SCIENCE FACT

BIG BROTHER INC: SURVEILLANCE, SECURITY, AND THE U.S. CITIZEN, Laura M. Kelley ____ 30

PROBABILITY ZERO

MUCH ADO ABOUT NEWTON, Carl Frederick ____ 76

READER'S DEPARTMENTS

THE EDITOR'S PAGE ____ 4
IN TIMES TO COME ____ 139
THE ALTERNATE VIEW, John G. Cramer ____ 72
THE REFERENCE LIBRARY, Tom Easton ____ 134
BRASS TACKS ____ 140
UPCOMING EVENTS, Anthony Lewis ____ 144

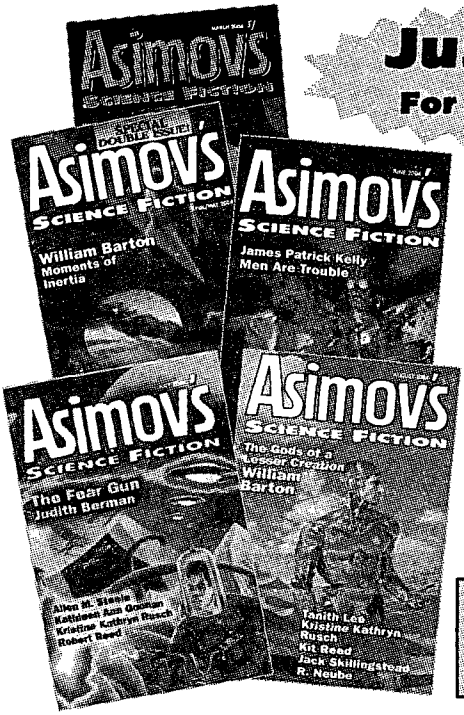
Stanley Schmidt Editor
Trevor Quachri Associate Editor

Cover design by Victoria Green
Cover Art by Vincent Di Fate

Indicia on Page 5
Online Chat Listing on Page 141

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

DISCOUNT TIME TRAVEL



Just $6.95!
For 5 Classic Issues

Order our **Asimov's Science Fiction Value Pack** and you'll get 5 of our most popular back issues for just $6.95 plus shipping and handling. **That's 65% off the regular price!**

Enjoy novellas and short stories from the leading science fiction and fantasy writers. Plus, candid, no-holds-barred book reviews and guest editorials.

To order,
just fill out the coupon below and mail with your payment today.

DELL MAGAZINES
Suite SM-100, 6 Prowitt Street, Norwalk, CT 06855-1220

☑ YES! Please send me my Asimov's Science Fiction Value Pack. I get 5 back issues for just $6.95 plus $2 shipping and handling ($8.95 per pack, U.S. funds). My satisfaction is fully guaranteed! My payment of $_____ is enclosed. (IAPK05)

Name: _____ (Please print)

Address: _____

City: _____

State: _____ ZIP: _____

Please make checks payable to Dell Magazines Direct. Allow 8 weeks for delivery. Magazines are back issues shipped together in one package. To keep prices low we cannot make custom orders. Add $4 additional shipping and handling for delivery outside the U.S.A.
Offer expires 9/30/06.

35C-NN5VL1

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

EDITORIAL Stanley Schmidt

ALIBIS, SAFETY, AND FREEDOM

One of the most original, intriguing, and thought-provoking ideas I've ever seen is the "alibi archive" system pervading the alternate-Neanderthal civilization in Robert J. Sawyer's Hugo-winning novel *Hominids* (which, coincidentally enough, first appeared in *Analog*, January-April 2002) and its sequels, *Humans* and *Hybrids*. You may remember the concept: every citizen has an implant that continually monitors his or her whereabouts and actions, storing a complete record of them in a remote, protected location.

No one else has access to those records under any normal circumstances, but they can be accessed in such special cases as the need to locate a missing person or to determine unequivocally what happened in an alleged crime. A most important result in Sawyer's Neanderthal culture was a nearly complete absence of crime. After all, who would dare commit a crime knowing that the details of his guilt would surely be proved beyond doubt by the "alibi archive" recordings for both him and his victim?

And all this without any routine monitoring of any person's actions by any other. Records exist, but are hardly ever seen by anyone else. It's a stunning contrast to such scary totalitarian visions as George Orwell's *1984*, in which everyone is subject to constant government surveillance. It's enough of a contrast, in fact, to prove seriously tempting even to devout believers in personal freedom who also care about providing a good measure of safety and security for all. Considering the incidence and damaging consequences of many kinds of crime in our own society, might it not be a worthwhile trade-off to sacrifice this much privacy in exchange for the virtual elimination of interpersonal crime?

Sawyer suggested just that in an essay in the Canadian news magazine *Maclean's* (October 7, 2002), under the "deliberately provocative" title, "Privacy: Who Needs It?" In the best tradition of *Analog*ish gadflyism, he makes a cogent case that the concept of privacy has outlived its usefulness, and that humanity's future may actually depend on the adoption of something like his fictitious Neanderthals' alibi archives. It's something that citizens of the modern world ought to read attentively, but I don't think he meant it as the last word on the subject. Rather, it was intended to encourage consideration and dialogue—but with a serious eye toward eventual action.

What I plan to do here is take up that challenge and continue the dialogue—urging readers to ponder carefully the points Sawyer makes, and also the additional considerations I raise.

Naturally, you should not do this solely on the basis of what I say. I'm not going to quote Sawyer's whole essay here, so I urge you to seek it out and read his own words. Many of you will not find it easy to lay hands on the 10/7/02 *Maclean's*, so I'll tell you another place to find it—which, as it happens, I recommend for many other reasons also.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Relativity is a collection of Sawyer's short fiction and nonfiction, and the first book published by ISFiC Press (ISBN: 0-9759156-0-6, $25.00, 308 pp.) Its content makes it well worth the price of admission: short fiction, speeches and articles on a wide range of topics, and twelve nuggets of excellent advice on several aspects of writing. If you've read his novels, you know that Sawyer is an extraordinarily productive source of ideas that merit further consideration; if you've read *only* his novels, this book will introduce you to a whole new side of him.

Such as the aforementioned essay on privacy, suggesting that the high value we've placed on protecting it may now do us more harm than good if it's carried unchanged into the future. In support of this claim, he suggests that there are only two reasons we desire privacy: (1) "the ridiculous shame societies have heretofore heaped on natural human activities and nudity," and (2) "so you can get away with something unethical or illegal."

Up to a point, I agree. Certainly these are two of the *major* reasons—but I can also easily imagine many smaller reasons that perhaps should not be dismissed out of hand. Some people are simply shy, either generally or in specific areas; maybe they would be better off if they weren't, but if they are, simply putting them willy-nilly under 24/7 candid camera surveillance is hardly going to solve the problem. Most of us sometimes like to give others surprises, such as completely unexpected but especially appropriate birthday or anniversary presents. And some of us, for whatever quirky reasons, simply function better at some things if we don't have somebody looking over our shoulders. Most writers, for example, would not want to practice their craft in front of an audience.

Admittedly the alibi archive system doesn't necessarily intrude all that much in these areas. That's one of the things that make it so much easier to consider seriously than ubiquitous Orwellian snooping. Even though my wrapping my wife's Christmas present is recorded, there's no reason to expect her or anyone else ever to see the recording—especially in the time frame when it matters.

But even if I grant that Sawyer's two reasons are the only really *important* ones for desiring privacy, I have reservations about how easily they can be eliminated or circumvented. While I fully agree that many prevalent attitudes toward perfectly natural activities are ridiculous, I also recognize that they are quite deeply ingrained in many circles and would not be at all easy to change. Sawyer, at least for the sake of argument, seems rather more optimistic about that than I am. "Yes," he says, "our Victorian ancestors might have been desperate to hide things from their families and

Analog Science Fiction and Fact (Astounding), Vol. CXXV, No. 5, May 2005. ISSN 1059-2113, USPS 488-910, GST# 123054108. Published monthly except for combined January/February and July/August double issues by Dell Magazines, a division of Crosstown Publications. One-year subscription for $43.90 in the U.S.A. and possessions, in all other countries, $53.90 (GST included in Canada) payable in advance in U.S. funds. First copy of new subscription will be mailed within eight weeks of receipt of order. When reporting change of address allow 6 to 8 weeks and give new address as well as the old address as it appears on the last label. Periodical postage *paid at Norwalk, CT and additional mailing offices. Canadian postage paid at Montreal, Quebec. Canada Post International Publications* Mail, Product Sales Agreement No. 40012460. © 2005 by Dell Magazines, a division of Crosstown Publications, all rights reserved. Dell is a trademark registered in the U.S. Patent Office. Protection secured under the Universal Copyright Convention. Reproduction or use of editorial or pictorial content in any manner without express permission is prohibited. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental. All submissions must be accompanied by stamped self-addressed envelope, the publisher assumes no responsibility for unsolicited manuscripts or artwork.

POSTMASTER: Send change of address to: ANALOG SCIENCE FICTION AND FACT
6 Prowitt Street, Norwalk, CT 06855.

IN CANADA RETURN TO: Quebecor St. Jean, 800 Blvd. Industrial, St. Jean, Quebec J3B 8G4
Executive Office: Penny Press, 6 Prowitt St., Norwalk, CT 06855
Editorial and Advertising: Analog Science Fiction and Fact, 475 Park Avenue South, New York, N.Y. 10016
Subscriptions: Analog Science Fiction and Fact, 6 Prowitt Street, Norwalk, CT 06855.

Printed in Canada

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

neighbors, because so many activities were proscribed. But who really cares today if someone is gay, smokes pot, or likes to watch porno films?" The answer I see is: a great many people, and with a vengeance.

Lots of people still care very much what others do, even in ways that have absolutely no bearing on them, and would love the chance to try to impose their ways on others or "punish" those who do things differently. Yes, there's a lot more tolerance of a wider range of private behavior than there used to be, but it's still far from universal. So while many of us can say, "I'm not ashamed of what I do," and more of our neighbors may agree with us, we may still need to hide it from the intolerant ones who don't, for simple considerations of safety. Again, the alibi archives may be able to get around this problem, *if* enough safeguards are built into it. Sawyer says, "It's not the freedom to do things that would disappear with constant black-box monitoring; it's the silly laws that make victimless activities illegal." I'd like to believe that—but I'd also rather see the silly laws disappear *before* the monitoring goes into effect, to make sure that those very laws aren't used to justify unsealing people's archives.

How about Sawyer's second reason for wanting privacy: to do things that are illegal or unethical? My reservation here is that "illegal" and "unethical" may or may not have much to do with each other. "Illegal" is defined by whatever government happens to be in power; "unethical," I'd like to think, is defined by a higher standard. History is loaded with demonstrations that governments can themselves be highly unethical, and solving that problem may *require* illegal activities.

Sawyer's essay acknowledges the American Revolution as an example of such a case, but also maintains that world conditions have changed in such ways that bloody revolutions are no longer likely to be necessary, and conditions that make them possible, by their very nature, encourage the growth of terrorism. Like most of his arguments, it's not one that can be shrugged off lightly, particularly since the alibi archive system, if done right, could provide even more checks and balances on governments. But neither is it an argument that should be embraced hastily with uncritical enthusiasm.

One of his justifications for consider-

STANLEY SCHMIDT .....Editor
TREVOR QUACHRI.....Associate Editor
MARY GRANT .....Editorial Assistant
VICTORIA GREEN .....Senior Art Director
JUNE LEVINE.....Associate Art Director
CAROLE DIXON.....Senior Production Manager
ABIGAIL BROWNING.....Manager, Subsidiary Rights and Marketing
SCOTT LAIS.....Contracts and Permissions
JULIA McEVOY .....Manager, Advertising Sales
BRUCE W. SHERBOW.....VP, Sales and Marketing
SANDY MARLOWE .....Circulation Services

PETER KANTER
Publisher

CHRISTINE BEGLEY
Associate Publisher

SUSAN KENDRIOSKI
Executive Director, Art & Production

Published since 1930

First issue of Astounding January 1930 ©

ADVERTISING REPRESENTATIVE Connie Goon, Advertising Sales Coordinator, Tel:(212) 686-7188 ◙ Fax:(212) 686-7414 (Display and Classified Advertising)
EDITORIAL CORRESPONDENCE ONLY analog@dellmagazines.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing something like this is one that I can hardly reject, because I made an argument very similar to it in my own editorial "The Fermi Plague" (October 1998): As technology puts more and more power into individual hands, it becomes increasingly likely that a single lunatic or malcontent will do massive amounts of damage, up to and including the destruction of a world. "We've already seen," Sawyer writes, "what one crazed suicide bomber can do with twentieth-century technology; imagine the devastation he or she might manage with the ordnance and genetic capabilities that will be freely available within the next few decades. We can be sure that those who wish society harm will be taking full advantage of advanced technologies. Why shouldn't we take advantage of technology to protect ourselves?"

A strong argument: We do indeed need to prevent powerful nuts from secretly planning and executing massive damage. But would the system as described really work in the kinds of cases we've had recently? The alibi archives are to be opened only in case of a very serious investigation, and there are safeguards against it being done otherwise. The idea is that crime will be reduced because people will refrain from doing things that they *know* they can be proved guilty of. That deterrent only works if they care about self-preservation. Suicide bombers don't, so they could do their dirty work *in toto* before an investigation is suggested.

Stopping them would seem to require monitoring them *before* they've done anything, and the ease of doing that is what quite rightly bothers many people about the U.S. Patriot Act. Preventing that, in fact, is the purpose of the safeguards in the Neanderthal alibi archive system. It could probably do a great deal to prevent ordinary crime among ordinary people—but how could it prevent fanatical acts by fanatical people who don't *care* if they're found guilty, and don't even expect to be around for the verdict? That, I fear, is a different level of problem, and may be quite hard for this system to solve without throwing away the very safeguards that make it palatable enough to consider at all.

The alibi archive system worked impressively for Sawyer's fictitious (but very believable) Neanderthals, but there are important differences in fundamental nature between them and us. I'm more skeptical about its working for us, but we do need something that can serve a similar function and is better suited to the way we really are. Because that "Fermi plague" threat is very real, and we really do need to do something about it, quite possibly something as drastic as—but not identical to—the Neanderthal alibi archive system. ■

We welcome your letters, which should be sent to **Analog,** 475 Park Avenue South, Floor 11, New York, NY 10016, or e-mail to analog@dellmagazines.com. Space and time make it impossible to print or answer all letters, but please include your mailing address even if you use e-mail. If you don't want your address printed, put it only in the heading of your letter; if you do want it printed, please put your address under your signature. We reserve the right to shorten and copy-edit letters. The email address is for editorial correspondence only—please direct all subscription inquiries to: 6 Prowitt Street, Norwalk, CT 06855.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

FOOTSTEPS

Shane Tourtellotte

Sometimes things aren't what they seem—and sometimes they are.

Luz Warren and her deputy emerged from Airlock C-7, advancing a few steps onto the Moon's surface. Long shadows stretched ahead of them from the lunar dawn, and a gibbous Earth hung above the ridgeline near the horizon. The edge of a solar farm lay before them, with sifters combing the regolith on the northern periphery. None of the suited figures working on the farm seemed to take notice of them.

"Someone was supposed to meet us," Luz said. She walked ahead, turning her head to scan to her right. "Can you see it?"

Norris Enfield looked the same way. "Yes," he said, pointing.

Luz heard a low murmur over the helmet radio, as Norris ordered his suit computer to magnify the image on his visor. She did the same, and soon spotted it, more than half a kilometer away. The body lay face-down, eerily still.

Someone soon arrived from the direction of the farm. "Sorry I'm late," said her voice over the radio. "Lambertson told me to show you to the body."

"We've found it ourselves, thanks," said Luz. "Let's go, Norris." She and the deputy started off, but soon she noticed the farm worker following a couple of steps behind. "Yes?"

"Well . . ." Her eyes wouldn't settle, bouncing between the sheriff and the distant body. "He did tell me to take you there."

"We can handle it. You can go back to work." Luz made it sound like an order, and the worker obeyed, with disappointment. Luz turned to catch up with Norris.

They traversed ground covered with tracks from wheels, treads, and boots. Those tracks began thinning out, and within a hundred paces had vanished altogether, leaving pristine regolith. They were making brand-new tracks on the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

surface.

So had whoever lay dead, now just a hundred meters away.

A single line of disturbed regolith led back to Airlock 8, the northwest exit to the new tophouse. Luz magnified on it to be sure. Yes, it was a single line of bootprints, two and a half meters apart, marking a casual stride. They stretched a third of a kilometer to Airlock 8. There was a cluster of prints and tracks around that airlock from the recent construction, but it extended no more than thirty meters.

Luz looked back at the body. She had thought the original caller from the solar farm was wrong, that the body's suit must be oddly colored or patterned, giving a false impression. He was right, though. The corpse—the man—was wearing nothing but regular indoor clothes. Outvac boots on his feet were the only concession to the unlivable environment.

He couldn't have gotten here on his own. Yet here he was.

Luz turned on her recorder, and turned her head slowly to take in the whole scene. She zoomed in on the line of footprints. They seemed to match his boots, and each other, but she'd analyze them later to be sure. She could tell already, she could take nothing in this case on faith.

Norris was already crouching by the corpse. Luz joined him, moving with quick care. "Don't disturb him yet," she said.

"I've got it recorded," he grumbled.

"I want a reverse angle, Norris, in case it reveals something." What Norris muttered in reply didn't quite sound like a subvocal command to his computer.

Luz walked around the corpse, giving it and the prints around it a wide berth. She spent a moment recording the scene from the opposite side, then retraced her steps.

"Capillary ruptures," Norris said when she arrived at his side. He pointed at the spiderweb patterns on the body's hands. "He died in vacuum."

Luz nearly snapped back that of course he did, before remembering her own advice about assumptions. "All right, let's get a better look at him. Get the legs."

She took hold of his arms. They could have lifted him easily by the torso, but she didn't want limbs flailing, beating at the regolith and the vacuum, heaping more indignity on him. They lifted him up and over, setting him down a few meters away, face up.

He was still real. Short, round-headed, starting to go bald even though he was still young. His face was in a rictus, blotched by burst blood vessels, purple in places, but not as grotesque as Luz had feared. Dried blood rimmed his mouth and nostrils. His clothes were simple cotton shirt and pants, though with a hideous belt buckle, huge, knobby and ugly. There were no airtight fabrics that might explain something. It was quite commonplace—which was the impossible thing.

Luz instructed her suit computer to send his image to the station, for identification. She handed Norris the medkit off her toolbelt, to take temperatures of the corpse while they still might mean something. She got ready to take regolith samples.

Just before she inserted the first scoop, though, she saw a rod. It was three decimeters long, made of green glass, and was half-embedded in the regolith where the body had fallen. Norris had no more idea what it might mean than she did. She put it in a large bag, then took her samples of the regolith: away from the body, within the body print, within the bootprints.

As she finished, Luz felt a tremor through her soles. Artemisia Dowling was driving up with the cart they had ordered when they first got the call. A stocky figure jogged beside the cart, wearing a labor suit. Luz moved to intercept him before he could disturb the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

scene.

"I'm Rob Lambertson," said a grating voice over the radio. He was supervisor for the solar workers, the man who had called in the report. He craned his head to look past Sheriff Warren. "Is that Ulrich?" Before Luz could react, she saw the outline of a magnification window inside his visor. "Yep, it is."

"You know him, Mr. Lambertson? You expected this?"

"It's Ulrich Zeiss, part of our team." He finally looked back at Luz. "And he didn't report for work today. I kinda figured it might be him."

Luz blew out a breath. "Missy," she told the cart driver, "get him back inside and to the coroner's. Norris, I'll need you to notify next of kin." Once they both acknowledged, she gave Lambertson back her full attention. "We need somewhere where we can talk."

The "hut" was a rolling airspace for outvac workers, providing bathrooms, crowded seating for meals, and some minimal space for anything else that needed unsuited bodies and air. The early lunch shift was coming in as Luz questioned Lambertson in a corner that didn't stay isolated very long.

"Ulrich always looked and sounded a little worried, but it had gotten worse the last few months. He seemed almost paranoid sometimes. Whatever it was, it was hurting his work: he was missing goals, having little accidents that took time to fix up. I was getting ready to fire him." He slumped into the back of the bench. "I kinda feel bad about that now."

"Oh?" Luz put on her best innocently questioning look.

"Well, isn't it obvious? He must've known someone was out to get him, and they finally did. Poor guy. He should've come to us. We look after our own, you know."

She got more information from Lambertson, then moved on to question other co-workers. They confirmed most of what she had learned. Ulrich Zeiss was introverted but inoffensive, and everyone accepted that. His work had been suffering of late, and they tolerated that less.

"He was dragging down our unit. We were in danger of getting a late penalty. Now we really are."

Jamie Munkacs took another fast bite from her sandwich. Her toned body and shaved head—a convenient style for outvac workers, even if Luz had never been tempted to affect it—made her intensity all the sharper.

"Sounds like his co-workers resented him," Luz said.

Munkacs gave her a sharp look, but only on half-strength. "We'd be pretty stupid to murder someone because his work was slipping. His replacement would have been even worse in the short run. It takes time to get experienced, to fit in with the team." She gave a shrewd smile. "It's probably the same way in a police force."

It took some willpower for Luz not to say what it could really be like. "It would only take one person, not thinking straight."

"I suppose so."

Luz ran through the last few questions, a bit faster than she intended, and excused herself. "If you need more from me," Munkacs said, "you can get in touch with me. Anytime." Luz nodded and kept going, not sure she had been reading that right.

The rest of her interviews were far more routine, and settled two unresolved questions she had. One, glass rods were sometimes used by the solar farm workers, for handling of objects that might carry electrical charges. Two, the farmers had no vehicle in inventory that did not make tracks, and nobody there knew of even an experimental vehicle that could levitate. The notion that someone could have dumped the body and faked the footprints seemed less plausible now than when she first thought of it.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She headed back to the tophouse, her visor dimming the sun that the panels around her were drinking in. For two-thirds of her life, ever since the First Murder in Space had fired her young imagination and so many others, she had imagined solving a case like this. Now she had one, one that might even overshadow Chuck Clark and the infamous Lears.

All her education and experience in the intervening two decades had taught her better than to want to profit from other people's misfortunes. No good law officer wanted personal aggrandizement at that price.

Even so, out here, alone, in the razor-sharp sunlight, Luz Warren could admit to herself the thrill she felt—and the fear that her long-ago wish had gotten her more than she could handle.

Deputy Enfield had already returned to the station and uploaded his video of his interview with Ulrich Zeiss's parents into the case files. Luz went into her modest office and pulled up the public records on them. Artur Zeiss was listed as a general store owner. Stella Zeiss was a tech writer, who doubled in newslogging. Luz knew the name: she read *Zeissgeist* now and again. They were both around sixty, but looked older in the video.

Both took Norris's news hard, in different ways. Artur sat limply in a chair, hovering near catatonia, giving soft, short answers to Norris's queries. Stella became frantic, and almost unstoppably voluble, as though she could explain away the news. Norris kept pressing his interrogation, asking whether Ulrich had any enemies.

"Oh, his whole profession was an enemy. So intense and competitive, people backstabbing each other for any edge. You've heard what it's like, Deputy. And maybe, maybe that was the perfect cover. You might not know, we came over during the European Civil War, the three of us. The Continental Council still calls people like us traitors, and you've heard how they persist against such people on Earth."

"After seventeen years, Stella? Why would they still care about us?"

"These are possibilities, Artur. The man needs possibilities. Of course, it could have been someone in love with Sariah, and jealous. That's Ulrich's girlfriend, a very nice young woman. They're very . . . they were very close. Oh my, my competitors will have a field day with this, try to discredit me with it. You know what these people are like. But you don't suppose. . . ."

Luz managed to glean some useful information from the increasingly painful interview. Ulrich Zeiss would never hurt anyone, according to his parents. He kept to himself a lot, tinkering at home, a common hobby for outvac workers like him. He bought parts from his father's store. And of course, he had a girlfriend named Sariah.

Luz sifted through the public listings. There were two Sariahs in Peirce County: one was aged twenty-five, the other six. There was only one more Sariah in all of Mare Crisium, in her seventies and married. Picking which one was the Sariah she needed was easy, not that she should have needed to.

"That wasn't your best interview," she told Norris, after she had him shut the door. "You pressed the Zeisses too hard. They were too distraught to be very reliable."

Norris glowered. "I was as persistent as I thought they could handle. The mother was eager to talk."

"Too eager. Most of what she said was hysterical, useless."

"How do we know that yet? I wasn't going to hang back, murmur my sympathies, and miss getting some crucial piece of information from them. We're going to need all the help we can get on this weird case."

Luz suppressed her own glare. "Then you should have gotten Stella Zeiss to give you the last name of Ulrich's girl-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

friend. I just had to look it up myself."

Norris stammered, then fumed. "What did that take you, one minute? So now I'm too persistent, and I don't ask enough questions. Is that it?"

"I did say it wasn't your best interview." She moved on before Norris could finish spluttering. "I need someone to examine Ulrich Zeiss's residence." She uploaded the address to a pad, and handed it over. "You can take Missy or Jack to help, if you want."

Norris read the pad, his lips pressed tightly together. "No, boss, I can handle this." He pivoted and walked out.

Luz sighed, and collected a vidset from her locker in the corner. She had to go break the news to Sariah Smith, if she didn't already know. All else being equal, she would rather have traded jobs with Norris.

Sheriff Warren found Sariah at home, red-eyed but dry-faced. Sariah's boss had taken her aside where she worked as an organic technician, told her the news, and let her go home early. Sariah explained this the first minute Luz was in her apartment.

"But . . . it wasn't right. I feel like a fraud." Sariah dabbed at her face with a cloth.

Luz inclined her head, the right passive pose with which to draw someone out. Was Sariah about to incriminate herself?

"We . . . broke up just a few days ago. My boss didn't know that. I shouldn't have taken advantage of her that way. I shouldn't . . . I shouldn't feel it like this when. . . ." She broke off, shuddering with each breath.

Luz gave her a moment, then made gentle inquiries into Ulrich's work, his habits, his friends and enemies. The answers gave her the same general impression that she had gained from everyone else. Sariah's particular closeness didn't alter the view, except for the emphasis she placed on his solitary habits.

Luz took a shot. "That's what broke you two up, isn't it?"

Sariah nodded. She had regained her composure, and the sharp question didn't dislocate it. "It got to be too much. It was like Rick was afraid of me, or us. He was getting paranoid. Maybe he knew. . . ."

"Knew what?" Luz asked, after a silent moment.

"Knew that someone meant him harm. From what you described, he was murdered, wasn't he?"

"We don't know that yet, Ms. Smith. We may not know for a while."

Sariah dropped her head into her hands. "Find out, Sheriff. Please. I hate thinking that there was something I could have done, if I had known, if Rick had told me something, anything . . . just find out, will you?"

"Of course," Luz said.

Just outside the station, Luz heard the cry. "Sheriff! Stop!" She turned to see Stella Zeiss hurrying toward her.

"Sheriff, I just learned how you found Ulrich. All of it—and I had to find it out from *The Lunar Chronicles*, of all places. Why didn't your man give me all of the details?"

Luz almost smiled. The one thing he had done well in that interview, Stella was mad about. "Deputy Enfield was trying to spare you the more bizarre aspects of what we found, Ms. Zeiss. He thought it would upset you and your husband."

"I'm upset now! Bad enough that my son is dead, probably murdered, but I have to be last logger in Crisium with the facts." She waved a pad at Luz. "You owe me, Sheriff. You owe me full accountings of the evidence, of your work. And exclusive!"

Before Luz could pull together a reply, someone else came running up. "Sheriff Warren!" he called. "I'm Joe Sorrell, of *The Lunar Chronicles*. Could I—"

"Leave us alone, you ghoul," Stella

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Zeiss said, interposing her body. "Can't you show the slightest respect—"

"Stop!" Luz Warren got their attention. "I will not stand here indefinitely to answer questions from the media."

"You're imposing an embargo?"

"But my son!"

"I will hold a news conference at six this evening in the station conference room. Anyone with a press license is welcome to participate. Now, I have to get back to investigating this matter, so you'll excuse me."

She got inside the station with no hint of pursuit. Halfway down the hall, she stopped and took out her pad. She put the impromptu announcement she had just made onto the official police notice board. She had just made her day busier, but it was necessary.

Before she could put the pad away, a corner icon began flashing. She pulled in the message: the medical examiner had news for her. The coroner's office was only a few buildings away, but couldn't be reached by inside corridors. She had to go back outside to get there, and who knew whether the newsloggers were still out there, sniping away.

Luz headed back to the main door, hesitating only briefly. She could have called the doctor for the news, but she knew she should be there herself. Respect for the dead demanded that much.

Dr. Helene Dryer looked as she always did, severe and dispassionate. Luz had donned a gown before entering the examiner's room, without having to be told, but that barely softened Dryer's countenance.

"The subject died of asphyxiation," Dryer said without preamble. "There is internal pulmonary damage consistent with sudden, full decompression. Computer, display image eight."

"I don't need to see that." Luz looked away, with just a glimpse of gray and red lingering in her head. She set her eyes instead on Ulrich Zeiss, his body lying on the table, mostly covered and restored from whatever disassembly Dryer had performed. "I trust your expertise."

"Hm. There are also surface capillary ruptures, consistent with vacuum exposure while the subject was still alive. You can see it on images—"

"I can see it now." Red traceries stretched across his face and neck, along with livid blemishes. Were they lighter now? A trick of the lighting, Luz thought. "Could you establish a time of death, Doctor?"

Dryer sighed. "Body temperature data were useless. He was exposed to direct sunlight for some time, and I can't say how long he was in night or shadow before that."

"I can probably get that information," Luz said.

"I'm not sure how much it would help." Dryer bent over a display, and muttered into its voice interface. "There's almost no data on body heating and cooling in vacuum. I could try to obtain a few fresh corpses for experiments—"

"Don't." She couldn't imagine explaining that at a news conference.

"That decision isn't entirely up to you," Dryer said tartly. "I could always use the subject body itself, though the data—"

"You will not, and that *is* entirely up to me."

Dryer absorbed the sheriff's burning stare without a flinch. "You did turn the body when you discovered it."

"For identification." But then she left it face up. "I didn't think it—"

"Don't apologize. It actually helped a little. Patterns of livor mortis have shifted slightly in the few hours since you turned the body. You might see the lividity is fainter here." Dryer pointed at Ulrich's face. "Gauging precise timing through lividity fixing is impossible, especially with our light gravity. I can only approximate that Mr. Zeiss died twelve to twenty-four hours before he arrived

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

here, between noon and midnight yesterday."

Luz knew she wouldn't presume to narrow it any further. It meant the latest Zeiss could have died was just at lunar dawn at Tophouse C. "That helps," she said, not quite sure yet how. She took out her pad, to send more instructions to her deputies on facts to track down.

"In your professional opinion, Doctor," she asked as she tapped away, "could a man go a third of a kilometer on foot with no air?"

Dryer sniffed, then gave it a moment's thought. "If he had hyperventilated on pure oxygen for ten minutes, then exited from full pressure to vacuum running all-out with his nose pinched, he might conceivably have made it that far, staggering from pain by the end. From what little I've heard of the evidence, that's not how this man got there, is it?"

"No." Luz put the pad away. "When will I have your full report?"

"This evening, assuming you don't want a more intrusive autopsy to gather very abstruse data."

"Like whether he was hyperventilating on pure oxygen before he died?" Luz groaned softly. "I'm sorry, but for this case, I may need every abstruse fact I can get."

Dryer frowned. Medical examiner's work came on top of her full-time practice, and it was not an avocation she loved. "Then you'll have my preliminary report this evening."

"Thank you, Doctor. I'll be sure to read it."

Six hours later, she had it on a reader as she sat in her living room, but her eyes kept sliding off the text. She set it aside and rubbed her face. She needed to be fresher if she was going to retain and use all this information. She leaned back and closed her eyes. "Computer, give me sunset."

She could see the light dimming through her eyelids, shifting into yellows and reds. The rush of a breeze reached her ears. Immediately she felt tension seep away. She could start ordering things in her mind, after this most disorderly of days.

The news conference had been endurable, and even a bit exciting. There were thirteen connections when she began, large outlets and newsloggers alike, from as far as Tranquillitatis and Serenitatis, and even one Japanese service from Procellarum. By the end, there were twenty, their images jostling on the displays before her. She had seen from the time lag, and confirmed in the logs later, that one of the new ones was from Earth. It was happening just as it had twenty-two years ago.

For their part, the reporters ran through their questions fast, and rushed without a pause into speculations cloaked as questions. Half of them posited obviously absurd theories. The other half suggested obscure tests for obscure evidence, expecting Luz's force to have unlimited time and inexhaustible manpower to pursue them all. She finally had to cut them off, promising another conference the next morning.

She couldn't blame them for speculating, not even Stella Zeiss. All the questions were there in the circumstances of Ulrich's death. Common sense said what she had seen was impossible, so common sense was misleading her somewhere.

Those footprints loomed large. Just one set led from the airlock to the body—but outvac boots were common, their tread patterns standardized. Someone wearing the same size and style as Zeiss could have made the prints. Airlock C-8's log recorded opening and closing once at half past eight yesterday, within Dryer's time range, and nothing for weeks before that. The log did not record identities, though: nothing said it couldn't have been another person.

But then, where did that person go? Walking backwards to retrace one's

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

steps perfectly was impossible. She had examined images of the closer prints, and none of them showed any signs of double impression.

Could that person have been carried away instead? It made sense, if some kind of floating platform had gone out to drop the body in the first place. But no such floating platforms existed, not to general knowledge. Could someone invent such a thing secretly, to use in a murder?

Luz stopped following the string. She was becoming like the media people, looking for results now. She had to give it time. Plenty of new evidence would come in, tonight, tomorrow, soon enough. She should remember Chuck Clark's example, and let it take the time it needed.

Unless this was only the first murder.

She forgot that brief worry, and opened her eyes a crack. The light was deepening past amber, fading into lavender and salmon. The wind sounded a little softer. She had used a fan once to simulate the breeze, but rejected it. It wasn't the same.

She hadn't felt a breeze or seen the colors of a real twilight since she was eight and the family moved up to Luna. Plenty of people used similar nature programs for relaxation. For her, it was more like nourishment, like a vitamin she could get nowhere else. She could live without it—she had for that first decade—but she would feel the deprivation.

Luz absorbed the ambience, so thoroughly that when the doorbell rang, she jumped and cried out. "Off, off," she said. Only when the light was white again, and the wind gone, did she ask, "Who's there?"

"It's Shep."

She wasted no time opening the door. Shepard Gubbins stood at the threshold. "Would I be interrupting an official investigation if I came in?"

"Oh, get in here." Luz pulled him inside, and soon found herself pulled right back, into a long kiss. She let him enjoy his show of strength. Shep had the height of someone born and raised on the Moon, with a well-tended build. His skin was a shade lighter than hers, coming from similarly mixed parentage.

They finally disengaged. "Is your safety course over?" Luz asked.

"Next week. I've got a good class this time through. I think this generation's learning their precautions young. It's much easier to get them to take proper measures with vacuum and radiation." He headed toward the kitchen space. "What can I make you for dinner?"

"Sorry, I've already eaten." She had thrown something together earlier, to keep her going.

"Oh." Shep shrugged. "Anyway, it was a good class. I wish your fellow had been up to their standard."

"My—what do you mean?"

"I mean if that Zeiss guy had known better—or if we had serious safety measures on equipment and facilities—he wouldn't have gotten himself killed in that crazy way."

Luz couldn't let that pass. "Shep, he was a third of a kilometer from the nearest airlock. How could this possibly be an accident?"

"How could it possibly be deliberate?" His hands began sweeping around, the way they did whenever he got exercised about something. "It's a ridiculous way to murder someone, a huge waste of effort."

"Exactly. The circumstances are so crazy, they obscure the routine evidence that would normally lead to a killer."

"But what if there is no killer?" Shep said. Luz's face hardened, and he quickly backed off. "Sorry, Luz. This is your work; you know it better than I do, even if I have a little expertise myself. I just can't help thinking all the newsposts are coloring your judgment, throwing out lurid, outrageous theories. You know how they think. Murder's a better story, so that's the angle they

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

chase."

"Are they really that obsessed?"

"It's the lead story on every log this side of Sere—" His eyebrow quirked up. "You mean you don't know?"

"I haven't ready any logs," Luz said. "I held the news conference, and that got good attendance. Since then, though, I've been too busy." A smile peeked out. "It's really been a big story, Shep?"

"Oh yeah, it's big."

The smile grew into a grin, before she noticed and wiped it away. "It was better when I didn't know. It's going to be a distraction."

"Really? A second ago you looked like you enjoyed the idea."

She still did. As good a guy as Shep was, though, she wasn't going to admit things like that. Luz shook her head. "I am glad you came, Shep, but I do have this case tonight."

Shep's face fell, rallied for a moment, then dropped back. "Yeah. I'll get out of your hair."

"You understand, it might be a while before things get back to normal."

"I understand. I won't get in your way." He walked up to give her a gentle, grazing kiss. "But I'm not psychic. You'll have to call me if you need anything, even if it's just one of my fabulous meals."

That brought Luz's smile back. Shep went to the door, turning at the threshold. "Call soon," he whispered. Before he could move, Luz leaped forward to get a parting kiss from him. She held the door open to watch his walk, down the apartment hall.

Luz returned to her chair and the coroner's report lying next to it. For a second, she felt a tug toward her main workstation, where she could link up to any of the newslogs within seconds. With an effort, she stayed where she was and started scrolling through the autopsy report again.

Her second news conference the next morning had over thirty active links, many of the new ones relayed from Earth. She had to go over some old news for their sake, as well as encapsulating Dr. Dryer's data. They were more demanding with their questions, and at once wilder and more dogmatic in their speculations. Luz had to be firmer in deflecting them.

By the time she returned to her office, she felt like she had spent an hour in an exercise cage. She barely settled in before she had to head off again. The assayer had results.

She rang his office chime twice, without reply. She knocked on the door, more out of frustration than expectation. A moment later, Jae Cheung opened up.

"Sorry, Sheriff." Cheung's hand was fiddling below one ear, turning on one of his implants. "I was concentrating and forgot to hook the lights up to the bell. I felt your knocking through my shoes."

"Don't worry about it." Luz rarely had reason to notice Cheung's deafness. After that conference, though, she felt a twinge of envy for someone who could turn his ears off. "You have something for me?"

"Yeah, and it's pretty interesting." Cheung bounded back into his office, stopping at the display next to his mass spectrometer. "First off, Ulrich Zeiss did make all those footprints, or at least his boots did. The regolith stuck in their treads matches the chemical composition of that in the ground the footprints crossed."

"Does that count all the ground? Outside the airlock, as well as where he was found?" Luz had had Deputy Enfield gather samples there late yesterday, one of several ideas she had thought of late. It hadn't helped his mood.

"It tallied up fine . . . except for the area around the body. That's the interesting part." Luz tensed, but Cheung didn't notice. "There was a spike in volatiles there, stronger the closer it was to Zeiss. Judging by the amounts

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and isotope ratios, it was indoor air."

Her tension came unstrung at once. "You mean regular, breathing air?"

"Pretty much. Oxygen content tested a bit low, and water vapor and carbon dioxide were high. With their low partial pressures and the small sample size, it's an acceptable variation."

Luz thought for an instant. "Was the amount of air about equal to a deep, held breath?"

"No. Much more than that—about a couple hundred times more. Got a pad?" She pulled one out of her pocket. "I'll give you the numbers." Cheung took the pad, linked it to his spectrometer, and started to upload.

Luz spent longer with her thoughts this time. "Could the air have been the exhaust of a vehicle hovering on columns of expelled air?"

Cheung's eyes widened. "An air-cushioned hovercraft, Sheriff? In vacuum?"

"Just a hunch, Cheung, but could it?"

"You're asking the wrong person. . . ." His hand reached for a spare pad on his desk. "But how much mass would it be carrying?"

"At least one human body, plus its own weight."

"Oh." He started doing calculations on his pad. "This would be without rockets or nuclear engines, right? There weren't any exhaust traces or radioisotope spikes."

"No, just regular, breathing air."

Cheung bent over his pad. "And the exhaust's directed down. I originally assumed a spherical release, so that means less total air to create the concentrations measured." He worked away. When his head came up, he was shaking it. "My calculations are rough, but you could only hover a couple of seconds at most on that amount of air. I don't mean fifteen or twenty. I mean two."

Luz pondered that. "It might just be enough time to drop the body and go."

"Go on what propulsion? It'd be out of—oh, right. The exhaust trail would go elsewhere. I guess it could, but I can't help you with that."

"Could you help if I got more samples, from a ring around where Zeiss was found?"

"Yeah. It'd have to cross somewhere. And if it's just a volatiles analysis, it wouldn't take long to go through them."

"I'll get them for you." Which meant, most likely, that her deputies would. She needed to gather statements of where people were the night before last, from coworkers, parents, and Sariah. She needed to find mechanics and engineers, who could tell her properly whether this air-blowing contraption was at all practical. And . . .

And all those jobs needed every hand the force could spare from the regular work of keeping Peirce County safe.

She gave a quick nod to Cheung. "I'll get them right now."

Some long, indeterminate time after what should have been lunch, Luz returned to her office. She granted herself only a minute to rest in her chair before leaning in to work at her computer. A note from Jae Cheung said he'd have early assay results by evening. She would have plenty to occupy her until then.

Station computers had been analyzing records of those prints since yesterday, and they finally had results. Luz called up the animation, a recreation of Ulrich Zeiss's last walk, hoping to see something strange, unexpected, suspicious.

What she saw was a figure loping out of Airlock C-8, covering ground with easy floating strides. The figure slowed, shuffled, then turned around a couple of times. It came to a stop facing the tophouse. An instant later the feet spasmed, and the figure tumbled and fell like a marionette with its strings gone slack.

Luz backed up the recording, and played the last quarter with confidence

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ratings displayed in the corner. The figure was over 99% on approach from the airlock, dropping a bit as Zeiss came to a stop. It lost points during the turning, and more at the fall, but it was still 88% overall.

For a simulation this complex, it was nearly as close to certainty as one could expect, but it still didn't feel right. The way that figure—looking quite a lot like Zeiss—casually walked into vacuum, looked back the way it had come, and died was unsettling, unnatural.

She had to remind herself that the head positioning was an assumption: maybe he was looking elsewhere. It didn't change the fundamental bizarreness, or her suspicion that the truth lay in that other twelve percent.

Her visits to the vehicle pools had fleshed out Jae Cheung's off-the-cuff hovercraft speculations, without actually resolving the plausibility of her notions. Such a machine could work, and its thrust could just be spread through enough nozzles to avoid blowing the regolith around in ways the eye couldn't miss. Such a craft would be dreadfully wasteful of air, though, enough so to break a few old laws still on the books.

Such charges would be nothing, of course, compared to murder. If it were the only way to commit a murder so bizarre that nobody could solve it, it would be worth it. And there was a possibility stranger still.

Luz called up Deputy Enfield's file on Zeiss's home. She saw his pictures of Ulrich's workroom, an organized mess filled with chips, wires, optics, batteries, leaves of sheet metal, and myriad other parts, almost all of them small. She saw no pumps, compressors, nozzles, or large framework pieces.

If Zeiss had built the hovercraft, he had either used up all the telltale materials, or covered his tracks by disposing of the excess. He must also have had an outside work area, because she couldn't see how he could get such a thing through his door.

Luz put her theories aside, and worked on facts. She combed through the statements she and her deputies had collected. No evasions or contradictions leaped out at her, and nobody pointed fingers at anyone else, not even Stella Zeiss this time. She made a few calls to check some statements, but everything held up.

That was bad news if this was murder: some possible perpetrators should be emerging by now. Neither did it mean that accident or suicide made any more sense.

Everyone had theories, of course. A few of the vehicle mechanics she had questioned had offered their own speculations, some informed, some just thinking they were. They all seemed to be following the newslogs and the established outlets closely.

Luz thought to put it off, but she had finished the work on her desk, those new assay results still weren't in, and her mind was too drained to produce any genius insights. She pulled up a list of all the news sites she had been avoiding, and started reading.

It was as bad as she had suspected. They were all trying to outdo each other covering the story. When that didn't mean producing their own solutions to the mystery, it meant peeling her apart for not solving the case—after all of thirty-six hours!

They all seemed to know what she should have done differently. Two newslogs thought she should have sifted for DNA samples from the regolith. They were far more likely to be on Zeiss, and Dr. Dryer hadn't found any. One log thought she should have taken the temperature of the regolith beneath Zeiss, to determine exactly how long he had lain there. That fellow didn't know how complex heat conduction equations could get between rock and regolith and human flesh. Yet another thought Luz should have measured the depth of Zeiss's footprints, to see whether someone of his weight had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

made them.

That was actually a decent idea, and she set the computer to calculating it from its simulation. It felt good to get something positive out of this exercise.

All of the sites had pictures. One had a surveillance camera shot that caught Zeiss on its edge, the isolated tracks still pristine before the police had gotten there. Two others claimed to have much better shots, also with the original tracks, but Luz could see they were fakes. Shorter shadows meant they were taken later in the Lunar day, and once she noticed that, spotting the traces of digital erasure of cluttering prints was not hard. She could prefer misdemeanor fraud charges against them, once more important work was out of the way.

Another site's simulation stopped her cold for a second, before she noticed some subtle differences in how simulated-Zeiss moved. If someone had gotten hold of the police simulation, there would have been bad trouble, either for a hacker who stole it, or a fellow cop who had presumably taken a bribe to sneak it out. Neither was anything she needed now.

Then there was *Zeissgeist*. Stella's latest posts talked about the police interviews, the questions about her alibi and her husband's. It was disturbing to see the woman expose herself this way when she should have been grieving, but she had little doubt that the viewing numbers made it seem worth it.

Luz blanked the screen. She had thought of skimming her mail and voice filters, hoping to find a nugget like that print-depth suggestion. Now, though, she couldn't bear to confront the obsessions some people might have with the case.

Her perspective was skewing fast, and she needed to get it back. She made her own call, wondering whether Shep would understand why she wasn't going to him first.

"Hello?"

Luz put on a smile. "Hello, Chief. I was hoping I could have a talk with you, to—"

"Have you eaten? If you get here in an hour, I'll have dinner ready."

"Oh, that'll be fine."

Chuck Clark was slowing down in his retirement. His body, tall for an Earth-grown man, was starting to sag, and more pink scalp showed through his while hair. Frontier living, even on a half-tamed frontier, was rough on a body, and the gentler gravity only mostly compensated. Still, Chuck held up well for his age.

He brought a bowl of fresh chicken salad and a juice decanter to the dining table. "Looks good, Chief," Luz said as she helped herself.

"I can always make it look good. That's the easy part." Chuck smiled, crinkling his whole face. "Now, I hope you didn't come here expecting tips on your case. That isn't my job any more, and it'd make for a pretty lousy hobby."

"No, sir." It was her job now. She wouldn't have it if Chuck hadn't believed she could do it.

"As for help outside the case—it's no secret that the media are flocking to you. They're even looking me up for comments, and it has been a while."

Luz allowed herself a smile, and picked at her salad. "I never did ask you how you handled it."

"It's not tough. Assert your powers sensibly. Give the newshounds a feeding time: nothing outside that, but level with them when it's their time. Let 'em know that you have the power, and that you aren't exploiting it."

"I . . . didn't mean that, though I agree completely." She took a moment to chew. "I meant how you handled it personally."

"Do the work. Nothing different from any other case. Keep the work first, and the rest can sort itself out once you're done."

Again, he was direct and succinct.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Again, he was on the mark. Again, he didn't really reach what Luz wanted to know. She ate silently for a few moments before coming out with it. "Did you want to be famous, Chief?"

"Oh." It was his turn to eat and think. "You know, I probably did at first, forty-five years ago. I came up to Luna in my prime, while it was still rough going up here. I think I expected to make my mark. That'd burned out by the time Morton Duberstein was murdered. Good thing, too. A sixty-year old itching for fame is liable to be a ridiculous figure. That probably goes for most people, really."

He leaned across the table. "Is that it, Luz? Do you want to be famous?"

Luz covered a gasp with her napkin. "Well, after you put it that way—"

"I'm serious."

"I know." She was too self-conscious even to stretch the pause by eating. "Maybe . . . but it isn't the trappings I want, the face on the news. I want to be recognized, respected."

"For what?"

"My work. I want to be a good sheriff. You set a pretty high standard there: solve the big case, and become a celebrity. Now, I've got the same kind of chance to prove myself, maybe my only chance."

Chuck settled back. "Most law officers who only had to handle one mysterious death in their careers would be glad."

"I know. I should be. But I want to measure up. I want to prove you were right in picking me as your successor." She got a familiar disbelieving look. "All right. I want to be as good as you. Better, if I can."

"And you're going to trust the newspeople to judge that?"

"I can tell myself I'm great anytime, Chief, for all it's worth. It helps to have an outside opinion."

"Well, I'm retired now, so my opinion's outside. Fame hangs on luck, Luz. Plenty of people may deserve it, but who gets it depends on chance opportunities. Kinda like bravery in battle: lots have it, but only those who show it in a tight spot get the medals."

This got Luz's attention. Chuck Clark had been in the military on Earth, long, long ago. She knew that from the bios reporters wrote after his big case, not from anything he'd ever said to her or anyone she knew.

"You can be the best law officer on three worlds," Chuck said, "but if the chips don't fall a certain way, nobody will know it, except the few people who know you best. Celebrity isn't an accurate scorekeeper."

Luz nodded. "Not always . . . but isn't this case one of those opportunities?"

"Maybe, maybe not. It's a lucky break, but you don't know what kind of luck it is yet—except for Zeiss and the folks close to him."

"I haven't forgotten that," Luz said. "I won't forget."

"That's good." He polished off the last of his salad. "I'm sorry if I'm not all the help you hoped I'd be."

Luz's eyes glinted. "Yeah, I was thinking you'd have someone's signed confession in your bureau drawer."

Chuck shrugged. "No room. Always was lousy organizing my paperwork."

Luz went into the station the next morning half-asleep. A few hours of tossing in bed hadn't produced any breakthroughs, and morning exercises had dulled rather than sharpened her. Feeding time for the press was in ninety minutes, and she dreaded it.

Deputy Jack Tantini met her in her office, giving her a thankfully short and dull status report. He was eager to head home for some rest, but he didn't depart immediately when dismissed. "For what it's worth, ma'am, I'd start barring that pig Sorrell from your press conferences. He's got no business tailing you like that."

Luz's eyelids snapped up. "Like what?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Like—oh, you haven't read it. It's in *The Lunar Chronicles*, top of the page. Unless you don't want to give him the visit; then I can—"

"I'll handle it, Jack. Head on home." He was gone before she could think to ask why he had been reading newslogs on duty.

There it was, as Jack said. Sorrell knew she had gone to Clark's for dinner last night, splashing the fact, and plenty of opinion, across his lead page. "It's too bad Sheriff Warren needs to turn to her old mentor for help cracking this case," read one passage, "but who better than Peirce County's most famous, and sharpest, resident for the job?" He predicted that the case would be solved within forty-eight hours.

Luz briefly regretted not living on Earth. There, your news could come on printed sheets, which you could crumple and toss across a room without damaging valuable equipment.

She refused to look at other news sites for whatever they might have to add. She also declined to throw Sorrell out when feeding time came. When the press contingents logged on for the conference—up to forty today, including every licensed outlet on Luna—she did have a few choice words.

"I am loath to give details of my nonprofessional life, but allegations from a source here on Luna require a brief exception. I did meet with Chuck Clark for dinner last night, but the visit was a social one. I did not consult him on the Zeiss case, and he offered no opinions on it—a notable show of restraint." A few reporters and loggers laughed despite themselves. "Any outlets that have reported otherwise should post corrections, promptly. Now, for the case at hand . . ."

There was little to tell. The assayer had found no significant gaseous infusions in the samples taken to catch a hovercraft entering or exiting the area. The coroner's extended work had produced all negatives: no hyperventilation before going outvac, and no muscular by-products indicating heavy exertions during anoxia. Ulrich Zeiss just strode onto the surface, and died.

She opened the floor. An Earth reporter asked whether the failure of her vehicle hypothesis meant the case was at a dead end. She denied this, claiming progress, masking disappointment. A Serenitatis newslogger asked why some deputies weren't working on the case, and she explained that the department had other normal duties it was necessary to fulfill.

"Begging your pardon, but what could be more necessary than solving a murder?"

Luz felt her back tighten. "I did not say it was more necessary. Neither have I ever stated that this is a murder. Do you have evidence backing your claim that I should know about?" She let him stammer for a second. "Thank you." She tapped the screen almost randomly to pass the floor, making sure only to avoid Sorrell. An instant late, she realized who she had tapped.

"Sheriff Warren," Stella Zeiss said, "you say you've made progress solving the case. If you haven't proven anything yet, that means you must have disproved something. What?"

"I . . ." She had disproved things, to any reasonable standard. What could you say, though, when your evidence disproved *every* possibility you could see?

"Nothing. So whatever evidence you've collected, you can't do anything with. It's been sixty hours or more since my son died, and you can't even tell me whether it was by accident or malice. I think it's time you admitted you're over your head."

"Was that a question, Ms. Zeiss?"

"No, and neither is this. Once forty-eight hours pass after a murder without some critical break, odds are it never gets solved. If we've run out of patience, it's because you've run out of time."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Finally, something she could answer. "I'm glad you weren't here twenty-two years ago to tell Chuck Clark that." She tapped an Earth reporter, and used the lag-time to catch her breath.

"Sheriff, you've said you need part of your staff to handle routine matters during this investigation. Could it be that you don't have enough officers for the work required of you?"

Great, a political trap. She set herself to answering, all hope fled that this conference would get any easier.

An hour back in her office didn't untie her guts, and the brainpower she expended didn't untie the case any more. She headed off to her appointment with Judge Johnson, using the internal halls as far as she could.

"Warrants are supposed to be specific things," Orel Johnson said behind his desk. He had a superbly dignified shock of white hair, making him look judicial even when his modest Earth-made height didn't. "Auditing the logs of a few dozen HCSes is more like fishing, with a wide and indiscriminate net. It's not why home computer logs exist. They're there for public safety during decompressions and other emergencies, not as dormitory monitors."

"I understand, Your Honor, and I believe this situation qualifies. A man is mysteriously dead, and unless we determine why, it may well happen again, especially if it was murder."

Johnson knitted his brows. "You read that article today on false equilibrium, I take it?" Her puzzlement told him otherwise, as she wondered what she had missed by skirting the newspages now. "Anyway, Luz, that's capable rhetoric, but shaky law. Citizens have a reasonable expectation not to have their movements monitored without cause."

Tell that to Joe Sorrell, Luz wanted to say. Instead, she said, "I'm not asking to know what they did in their homes, just whether they were there. That is minimally intrusive."

The bargaining went on for a while, but Luz eventually got listings for the few hours around Zeiss's death. She studied it on the way back to her office, matching it from memory to the times from the interviews. She could see two serious discrepancies so far, both from workmates of his.

One of them cleared itself up. A message had arrived just after Luz left, from one of those interviewees. She had mistakenly dropped an hour during her interview, she said, and wanted to set the record straight.

Checking the logs against the interviews, Luz still had plenty of small discrepancies, but anything up to fifteen minutes was simple human imprecision at work. Two hours and fifteen minutes was different, though—and who else but Rob Lambertson, Zeiss's foreman?

This could be the break, except that the place Lambertson said he had left for home much earlier than he did suggested why he might have lied. Luz wasted no time heading to the Blue Moon Gaming Club.

"Oh, Mr. Lambertson," said the shift supervisor, his dark eyes flitting briefly from the bank of monitors. "He's a player here. Three evenings ago . . . yes, Sunday's his usual night. I was on-shift then. I saw him."

"How long did he stay?"

"Six to ten, I think." That would match the HCS records, and complete his alibi. "I can check monitor records, if you like."

"I'd like to. No slight on you." Memory was rarely perfect.

"No problem." Within a minute, he had time-indexed images on a screen for Luz. She perused them, having no trouble ID'ing Lambertson's short, blocky frame even with his back turned. He was there the full four hours, going from video cards to the real thing to the push-button bandits. The later it got, the surlier he looked.

"That's all I need," she told the supervisor. "Very helpful. Thank you." He an-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

swered politely, but his attention was already back to the monitors.

It wasn't really her business that Lambertson seemed to have a gambling problem. It provided motive, if Zeiss's poor work performance was threatening Lambertson's pay, but his late gaming now took away his opportunity. She'd have to start working on people without alibis for the critical span: about twenty people.

She was going to have a full afternoon.

"Almost done," Shep said from the kitchen nook. Luz barely heard him. She had her nose deep in that day's *Cristum Herald*. She had finally tracked down what Judge Johnson had meant about "false equilibrium".

The occasional commentary feature "A Sea of Troubles" was unsigned, but it was an open secret that the *Herald's* editor wrote it. In today's edition, she was examining the anomalous nature of Luna's dearth of crime. Frontiers were supposed to be lawless, but this one had had only three murders—maybe four now—in half a century. Other violent crimes were notably infrequent.

Luna is super-saturated with order, the way water, under unusual circumstances, can hold more of an ionic compound than it can regularly absorb. Such states are delicate. One small disturbance, and the solute can precipitate out in an instant.

It's almost a self-hypnosis. We're convinced we have a peaceful society, thus we have one. We think something has made us special, better than Earthbound civilization, but we're still human, with everything that means. That makes the illusion delicate, easily disturbed.

What kind of disturbance could destroy the relative peace we have here? A murder, perhaps, with no solution, something that subliminally convinces others that they, too, can get away with the act? The more well-known the case, the deeper and broader its effect would be.

Be careful, everyone. One of the most pleasant assumptions you make about life on Luna may be about to be overthrown. Violently.

A plate appeared under the reader she held. "Oh. Thank you, Shep." She laid it aside and looked at her dinner, not quite noting what it was.

"Just the restorative, after a hard day's work," Shep said. "Enjoy." He started in on his plate.

Luz took a few bites. It was quite good, showing off Shep's flair for combining seasonings, but she couldn't savor it. She kept stealing glances at the reader.

Shep was quiet, but far from sullen. If he had resented her going to Chuck Clark for dinner and conversation before him, he didn't show it. Now he was being just as patient, as she was giving his dinner half the attention it deserved.

"I'm sorry," she started. "I'm so preoccupied that—" Shep made some reassuring gesture, but that didn't help. She took the reader and tossed it lightly toward him. "What do you think of that?" she said.

He set to reading, giving her a while to concentrate on dinner. What was that mixture in the tofu? Just as she thought she had one spice figured out, two more would suggest themselves.

"Whew," Shep said, passing back the reader. "No wonder you're feeling the load."

"Do you think she's right?"

Shep took a long drink. "Well, there are two facts colliding on Luna: the sharp boundary between hospitable and unlivable environments, and the modern Western premium on preserving lives. You can count me as an expert on the second."

"I'll say you have good practical experience."

"Why, thanks," he answered with a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wink. "When they combine here, they produce a sense of pulling together against hostile nature, stronger than anything an Earthly frontier ever produced. The close quarters for living, rather than wide-open spaces, intensifies that. It's the Wild West in reverse, and I'm all for it."

"Could it be broken, the way she says?"

"She says it's vulnerable because it's an illusion. I don't think it's illusory: it exists for solid reasons that your Zeiss case doesn't really upset. Maybe there could be a decline in the effect, but I don't believe it'll crash and disappear."

"That's a little heartening, Shep—only my failure could end up starting the decline."

Shep shook his head. "I still don't believe this was murder."

"The press does. The loggers absolutely do."

"True enough," he admitted. "But then they're to blame for what they whip up."

"And if they had nothing left to whip up . . ." Luz sighed. "I still want to solve this thing. And please don't say I'm not alone in this. If this goes unsolved, history won't blame the deputies. It never does."

Shep didn't say it. He left Luz to nibble at dinner in silence. Once he cleared the table, he pleaded an early start to tomorrow's work, and left her to herself. Luz wasn't fooled, but didn't have the heart to ask him to stay and endure her brooding.

Besides, she wanted a few hours before bed to work on the case. It wouldn't crack itself.

She shifted feeding time for the media, from morning to late afternoon. She hoped to have something substantial by then, but the act was close to desperation. They would continue to produce their own news, likely featuring her inadequacies prominently.

She arrived in her office an hour early, because if she couldn't be adequate, she could still be dogged. She split up the list of remaining interviews with people who could confirm whereabouts and clinch alibis. Deputies would get some, she would get some, and by day's end she would have all this data that probably would lead nowhere. And then she'd have to tell the press-hounds about it.

Luz's mind wandered back to Zeiss's workroom, and his tinkering materials. She knew for certain he hadn't been building any hover-ships. An interview with his district's recycling collectors confirmed that he hadn't disposed of anything large enough to be the remnants of so large a project. There seemed to be no answers there, but Luz felt a need to see it all again, handle it, draw something out of it.

The back of her brain saw this for what it was: procrastination, dealing with inert metal and electronics so she wouldn't have to deal with human beings and their judgments of her. The rest of her brain didn't care.

"Norris," she called as she walked out of her office, "where are the boxes?"

Deputy Enfield popped out of his alcove. "Back closet. What are we packing up?"

"Ulrich Zeiss's workroom stuff. I still think I'm missing something there."

"Uh . . . it's not there any more."

"Then where is it?" she asked, before seeing in his face that she'd dislike the answer.

"I released his belongings to his parents. I think they picked all that stuff up yesterday."

Luz started burning. "You did this on your own authority? Because you didn't have mine."

"You led me to think you were done with that junk," he answered back. "Besides, they were kinda insistent. At least, she was."

That part made sense. "Great. Norris, go back to Ulrich's place and—no, have Missy go there and pick up anything

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

from the workroom they haven't gotten. She's to call me with an inventory. I'll be seeing the Zeisses."

She went straight to Artur's shop on a hunch. It paid off. There, past Artur on the far side of the cashier's counter, was a shallow box filled with neatly arranged tools and parts, wearing a sign soliciting offers. Hovering right by it, protecting it, was Stella Zeiss.

"Have you sold any of those yet?" Luz asked Artur.

The question slid off Artur and over to Stella. "We've gotten two on-line orders already. They'll be picking up this morning. Why?"

Luz wanted to ask that very question of Stella, but suppressed herself. "That material is evidence in an ongoing investigation. I need to retake possession of it."

"But Deputy Enfield—"

"Was premature. I'm sorry, but—"

"No!" Stella put her arms around the box. "You will not. First someone takes our son; then you take away our hope for justice, piece by piece with your dawdling and ineptness."

"Stella, please," Artur said.

She disregarded him. "And now you come to take away his belongings. No! They're ours. We'll do with them as we will. Now go away. Try and think of something useful to do, but—oh, Mr. Wyatt. Right here."

Luz looked over her shoulder at the tall, embarrassed-looking fellow. Stella pulled a small container out of a shelf, with fiber-wires and aluminum leaf at the top. "Here's your order. I hope it's useful."

Wyatt reached out his hand, but Luz took his wrist. "Excuse me, sir. Sheriff Luz Warren." He looked at her, less worried than annoyed. "Those items are part of an investigation—"

"Sheriff, let go of my customer."

"—shouldn't be here, and we need to take them back as evidence." With her free hand, Luz furtively tapped a code on the pad in her pocket.

"They turned it over to us," Stella's voice said, rising.

Luz could scarcely imagine what kind of stink *Zeissgeist* and everyone else would raise over this. Before she could decide whether to answer or ignore Stella, Wyatt got a curious look. "Part of the investigation?"

"Yes, sir."

The look grew into a smile. "I knew it was his, but—will you sign me something to that effect? When you return it, I mean?"

Luz's weary mind grasped it slowly, but her answer was sure. "Sounds fair to me."

Wyatt handed over the container, his smile undimmed, and left the store. Luz gave Stella a moment to take in herself what had happened. "Perhaps if you explained the situation to your second customer, and let other . . . collectors know why this stuff would be off the market for a short time . . ."

"I . . ." Whatever reckonings Stella did in her head came out right. "Yes. Yes, all right."

"Glad to hear it," Luz said, as her fingers moved to cancel the call for backup.

The episode gave Luz a burst of energy and optimism that lasted almost an hour. Back in her office, with her desk cleared off to make room to spread all of Ulrich's gadgets, it waned. It couldn't maintain itself against the stark tableau of random metals and ceramics and devices that went beyond her modest mechanical and electronic comprehension.

She would need an expert to tell her what Zeiss had been trying to make, if even that would suffice. All the vital bits could have gone into some gadget nobody had managed to find, leaving her with jigsaw pieces that fit no puzzle.

And could it matter what he had been making? Conceivably, if someone had thought it worth taking from him. But that didn't explain anything else, all those things that needed explaining.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Luz sank her head onto her crossed arms. If there were parts here for an oxygen mask, a heater to cut through the bitter cold of pre-dawn lunar night, it would be something. If anything had been discarded along the way, tossed aside between the airlock and that sad, still figure . . .

There wasn't. Half a dozen times checked and rechecked, there was nothing within two hundred meters of his path. There was only what Ulrich Zeiss wore as he walked out.

Luz's mind froze, then crept back to that day, back to her first look at the corpse that had been her life for the last three days. And she saw it.

"I'm so stupid." She could let herself say it now, because it couldn't hurt her any longer.

She punched in a call to the coroner through her computer, hoping she hadn't pulled an Enfield. Dryer picked up late, looking resentful the instant she recognized the sheriff. Luz didn't care.

"Dr. Dryer, do you still have Ulrich Zeiss at the morgue?"

"Yes," Dryer said flatly. "Should I have released him to his family?"

Luz caught herself just short of a nervous, jaggy laugh. "No, no. More important, do you have his clothes?"

"They're still there, yes."

"Good," she sighed. "I'll be there to pick them up in five minutes—that is, one item out of them." Luz disconnected before Dryer could ask why. She half got up, then sat back down and made another call. It was premature, but she was too certain to hold back.

"Hello?" he said, coming through audio-only.

"Shep, it's Luz. Listen, drop what you're doing. I need you to meet me at Airlock C-8 in—call it an hour. Full suit, and bring some safety equipment."

"What, is there some emergency?"

"No. I'll just need you there. And you'd kill me if I didn't have you along."

"Is it something dangerous?" His voice had a sudden sharpness.

"Probably not—but safety first, right?"

"You can't be serious." Shep had just snapped out of a long bout of staring, after Luz had told him what she intended to do. "Luz, Ulrich Zeiss *died* doing this."

"He died walking hundreds of meters away from safety. I'm not taking that same trip. But I do have to test this under similar conditions."

"For God's sake, at least put on a suit." He was in his, speaking through his helmet radio. Her radio was a mere frame on her head.

"No, might interfere with its functions," she said. "I think Zeiss knew that."

"Please, think this over. Whatever stunt you're pulling—"

"Is necessary to convince the public," Luz shot back, "to leave no room for denials and more half-baked theories." She softened her voice. "It's also necessary to have a reliable, professional witness—not to mention a little backup, just in case." Shep could only shake his head. "I think you should step into the corner, and start your video." The airlock was four meters square, so he hadn't far to go.

Luz adjusted her belt. It was Ulrich Zeiss's belt, with the hideous clunky buckle, bigger than her fist. It bore three shiny studs on its dull face, and one on each side. This was what he had been crafting, for however long.

Which button? The choice seemed obvious. She pushed the center stud—and gasped. There was an intense, tingling itch at the top of her scalp, and along her lower shins.

"Luz!" Shep was staticky over the radio earpiece. Luz held up a hand to stop him from charging over.

"I—I'm all right." The sudden tingle was fading, particularly at the legs. She was wearing outvac boots, the only element of a surface suit Ulrich had worn. Maybe that was ameliorating the effect;

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

maybe he had known they would.

Looking back up, she could see the edge of . . . *something* . . . curving away from her head. A faint distortion, a refraction of light. There was a hint of it at her shins, too. "Do you see that?" she asked Shep.

"Yeah," he crackled. "What is it?"

"The edge of the containment field, I think."

"The what field?" Shep said, more in surprise than ignorance.

"Containment. I'll prove it, I hope. Pump out the airlock." He half-formed a protest. "Or I can do it myself. I do have to test that part."

"I—Luz, if you show the slightest distress—"

"Fine with me," she said, sounding reasonably confident.

Shep went to the control pad by the inner door, and went through several series of button pushes. Luz could hear the pumps start, mostly through her feet. The bubble seemed to stop sound, which made sense.

She stood still, making herself breathe slowly, trying to feel any drop in pressure. Her lungs didn't ache; her ears didn't pop. The barrier was airtight, more or less.

The pumps stopped. "Vacuum," said Shep, watching her intently. "You're okay?"

She nodded. "Watch the pressure readout. Is it rising at all, even the slightest bit?"

He kept one eye on the screen, one on her. "Not budging . . . still nothing . . . no, no apparent leakage." He looked her up and down. "So this is how he did it."

"Right—though there's still one more question." She rummaged in her pocket. "The right tool for the right job," she muttered, before drawing it out.

It wasn't the one she had found by Zeiss, but one green-glass rod was much like another. She stepped toward the outer door's control panel, careful not to let the bubble touch the wall, and gingerly reached with the rod.

"Luz, what are you doing?"

"Seeing if this will go through the field. I have to be sure Zeiss could open this hatch. Doing it by hand might be possible, if I didn't mind exposing it to vacuum."

The rod touched the barrier, and slid through with slight initial resistance. Well, if her legs could pierce it without getting cut off or pricking the bubble, this made sense too. She started keying in the code.

"Okay, you proved your point—all of them." The static was louder. "You don't have to—"

Too late. She felt the grind through her soles, and watched the airlock slide open. It was a wide double-door, made to handle light equipment as well as people. Zeiss must have been thinking of the bubble's breadth when choosing it instead of the smaller, odd-numbered locks.

Luz froze for an instant, her brain convinced there was nothing between her and death. It passed, with a groan, and she looked out onto the Moon's surface. The shadow of the tophouse stretched away, the edge of sunlight razor-sharp. She could see the confusion of footprints outside the lock, and the several trails that now paralleled and intersected the tracks Ulrich Zeiss made on his walk.

It would still have been night when he came here. His way lit by Earthshine, he would have walked freely, untouched by the heat or radiation of the Sun. He would have been unencumbered by a suit, not weighed down. His step would have been as light as on the street, without the walls surrounding him, near or far.

No wonder he had neglected work at the solar farm lately. He would have been racing the clock to finish this device, to beat sunrise, to not have to wait out the two-week Lunar day. It was irresistible, the lure of stepping out there, free.

She crossed the threshold with a gen-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tle bound, just one small step. She felt the familiar crunch under her boots, but it was so different. She took another step, craning her head left. Just around the curving wall of the tophouse, past the solar farm and over the distant ridgeline, was Earth at last quarter. No helmet faceplate filtering or computer-enhancing it. The light shone from the world of her birth straight to her eyes, untouched . . .

"Luz, come back here! Ow!"

She found Shep behind her, recoiling, shaking his gloved hand. "All right," she said, back in reality. "I'm coming. Just give me a wide berth."

She followed him inside, and didn't cavil when he hit the door-shut button on the far console before she could reach hers. She didn't try to stop his reproaches either, but they ran out quickly. He keyed in another sequence, and the pumps began working again, to let in air.

Luz felt a slight chill in her feet, the cold of the shaded regolith finally working its way through the soles. It was a pleasant sensation, one that made her realize how warm and stuffy the rest of her was feeling. She said nothing, not wanting to get Shep going again.

"Seventy-five kilopascals," Shep read. "You can shut that off now, get some fresh air."

So he did know. Oh well. She found and pressed the middle stud—and the half-forgotten itches became forests of needles. She choked off a cry, and hit the stud again. The pain subsided to the old tingle.

"What happened?" Shep approached her, but was balked by the barrier.

"Didn't do what I thought." She tried again, braced for the pain. Same thing. "It turns the belt on, modulates the intensity, but it doesn't turn it off."

"All right, don't do anything. I'm calling for help."

"Oh Shep, don't panic."

"*I'm* not."

"I'll just try the other buttons."

"When you don't know what—"

She touched the left-face button, and the itches moved, closing in. She pulled her finger away and they stopped, but she could already feel the clutches of vacuum on her forehead. She bent her torso, and got relief, though her ears popped.

That button shrunk the field. She tried its opposite for a second, feeling it in her ears again, and stood up cautiously. The itch was around her ankles, and didn't touch her scalp.

She saw Shep's mouth moving, but heard nothing over the static. He was on another channel, calling in help.

"Three down . . ." She pushed the button on the left edge, waited, but felt nothing different. The right was the same. Now she was breathing fast, her head starting to throb. Was it panic, or carbon dioxide buildup?

Shep's voice returned. "A rescue team's coming. How are you doing?"

"Okay," she lied. "Don't understand. Has to be an off switch."

He started unpacking a kit on his hip. "Can you disconnect the power source?"

That would be inside the buckle—and that meant removing and working on it, though the bubble was centered there and would move around with it. Bad idea, but what else was there?

Shep connected one end of a tube to his air pack. The other end had a breathing mask. He tried to push it through the bubble, but met resistance, the flexible mask deforming.

She couldn't understand. It had to turn off. Ulrich turned it off. There had to be something simple she was missing.

Then the last piece fell into place. It *wasn't* simple.

"Wait," she told Shep. She reached down with both hands, and pressed the side buttons simultaneously. The burn vanished from her legs and the static from her ears, and cool dry air rushed in. She breathed it in gratefully, and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

smiled. "You can call off the cavalry now."

Shep embraced her through his suit, long enough to cancel his rescue alert off-channel. "Done. Should I alert the media now?" he added.

"No! Oh, Shepard, you have a lot to learn about police work."

"Me? How about we talk about you and all the safety precautions you ignored today?"

Luz's head turned toward the outer airlock door. "Some risks are worth it."

She was able to get the Zeisses away from their store and to their home before breaking the news. Stella took it mutely, with only a couple of questions. She left off even that much once Artur's sobbing reached its peak of volume, to hold and rock him.

Luz showed them the belt once Artur had some composure back, saying they could reclaim it tomorrow, once the case was officially closed. "If you're going to sell it, I'd recommend getting some advice on patent law first. Make sure it goes to a good practical engineer, too: someone who can study it thoroughly, and build on Ulrich's success."

Remarkable as it was, it had all the impracticalities of many early inventions. It would be a long time before it became common for surface work. As for recreational jaunts, Shep and his colleagues would surely discourage that as much as they could. That might not matter, though.

Luz crossed town to the organics bays for the second half of her duty. In a small side-room, she recounted for Sariah what she had told the Zeisses: that Ulrich had invented this device and tested it successfully, but died when he inadvertently switched it off.

Sariah's reaction wasn't as bad as Artur's, but she still needed the handkerchief Luz gave her. "I wish Rick had told me," she sniffled, "trusted me. If that's why he spent all his time alone, neglecting . . . everyone, I could have understood. Maybe things would have been different."

Luz let out a quiet sigh. Sariah didn't suspect, any more than the Zeisses had. Maybe it would come out once some expert got hold of the barrier projector, but she might be able to speak quietly to that person, convince him to keep that one fact under wraps.

Ulrich Zeiss had not died accidentally. He had been a better engineer than that, building his device so it couldn't be deactivated with one careless nudge. He had gone onto the surface, far from the tempting safety of a change of mind, and taken his own life.

His motivation was likewise plain. What did the accomplishment matter to him, when he had lost Sariah to gain it? Whatever fears made him work so furtively, they also stopped him from showing his reasons, once he could, and asking her forgiveness.

Luz gave Sariah's hand a pat. "You can't second-guess that way. It's unfair to blame yourself over things you didn't know."

Sariah gave her nose a last dab. "Maybe. Anyway, now we know. Now there's closure."

Luz nodded. She would give her last press conference, and close this case. After all their theorizing, the media wouldn't be satisfied with a ruling of accident, even under such bizarre circumstances. Her dramatic demonstration might earn her some brief notoriety, but their attention and praise would soon turn to Ulrich and his invention.

That was all right. She had done her job.

"I still loved him, Sheriff Warren," said Sariah. "Now that it doesn't sound like a flimsy alibi, I can tell you that. I only hope . . . he didn't hate me at the end."

Luz Warren fought to make herself smile. "He didn't," she said. "I'm certain of it." ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Science Fact

Big Brother Inc: Surveillance, Security and the US Citizen

Laura M. Kelly

Powerful new information technologies, like any potent tool, must be handled with care.

"John Allison Anderton is hereby declared a potential murderer and as such forfeits his rights to freedom and all of its privileges," blares the radio announcer's warning in Philip K. Dick's *The Minority Report* as he cautions fellow citizens not to shelter or aid a man who *might* commit a violent act. In that story, violent crime has been nearly eradicated in New York City by acting on the premonitions of violence experienced by beings that bear witness to the future. If two of the three mutant precogs issue the same warning of a violent act, the person accused is summarily rounded up and thrown, without a trial, into a detention camp. As attractive as a murder-free Manhattan may seem, eradicating the very possibility of crime in that world required punishing innocent people.

Events similar to those described in *The Minority Report* are taking place in the United States today as men of Middle Eastern ethnicity or Muslim faith are being rounded up to prevent future terrorist attacks. Many of the men detained are indeed guilty of overstaying their visas, but only in the hopes of making a better life for themselves and their families. They harbor no ill will to the people or institutions of the United States, and yet many are detained for years, only to be released and deported from the shores which once held the promise of social mobility and personal freedom for them.

Al Q'aida's destruction of the World Trade Center buildings in September 2001 has shocked American law enforcement and border control agencies into instituting new ways to protect us, and has even resulted in the creation of at least one new federal department—Homeland Security. But if we are not careful, the preemptive profiling used to screen for terrorists may also set us on a path leading away from the fundamental rights and liberties guaranteed to us in our Bill of Rights.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Patriot Act

Six weeks after September 11, 2001, while the nation was in the throes of the anthrax letter attacks, a panicked Congress passed the USA/PATRIOT ACT (Uniting and Strengthening America/Providing Appropriate Tools Required to Intercept and Obstruct Terrorism). Although the Patriot Act paved the way for beneficial programs such as those that sponsor the development and purchase of medical countermeasures against biological weapons, it also enhanced the government's authority to spy on its own citizens. Further, it also reduced checks and balances on those powers like judicial oversight, public accountability, and the ability to challenge government searches in court. These new powers greatly exceed the government's former powers by increasing the amount and type of information that law enforcement organizations can collect on US citizens, while concomitantly reducing their need to prove the need for such surveillance in a court of law.

Specifically, the Patriot Act increases the government's surveillance capability in four areas:

- Record searches: to look at records on an individual's activity that are held by a third party. (Section 215)
- Secret searches: to search private property without notice to the owner. (Section 213)
- Intelligence searches: to increase domestic collection of foreign intelligence information (Section 218).
- "Trap and trace" searches: which allow the government to collect addressing information about the origin and destination of communications, as opposed to the content (Section 214).

Of these four provisions, the one of greatest concern is the government's increased ability to command record searches. At a time when computerization is leading to the creation of more and more such records, Section 215 of the Patriot Act allows the Federal Bureau of Investigation to force anyone at all—including doctors, libraries, bookstores, universities, and Internet service providers—to turn over records on their clients or customers. Furthermore, the third parties that are asked to turn information over to the government are now required to do so in silence.

The expansion of secret searches also allows the government to conduct searches without notifying the subjects, at least until long after the search has been executed. This means that government agents can enter a house, apartment, or office with a search warrant when the occupants are away, search through their property, take photographs, and in some cases even seize property—and not tell them until later.

Notice of a search is a crucial check on the government's power because it forces the authorities to operate in the open, and allows the subject of a searches to point out irregularities in a warrant, such as the fact that the police are at the wrong address, or that the scope of the warrant is being exceeded (for example, by rifling through dresser drawers in a search for a stolen car).

Also worrisome are the changes the Patriot Act made to the 1978 Federal Intelligence Surveillance Act (FISA). The changes, codified first in 2001 and then expanded in 2003, allow surveillance of non-US citizens for the purposes of intelligence without law enforcement authorities having to associate them to known terrorist organizations. Quite simply, the new laws allow for domestic surveillance and searches of individuals *suspected* of terrorist ties. Proponents of the laws call them necessary to win the war on terror and opponents—including Senators Patrick Leahy (D-Conn.) and Russell Feingold (D-Mich.)—call them superfluous and say that application of the laws come dangerously close to flouting the Fourth Amendment's "due process" provisions in the US Constitution.

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TIA and CAPPS

In addition to increased operational surveillance, provisions in the Patriot Act have also allowed for intensive scrutiny of our electronic records as well. The Pentagon's Total Information Awareness (TIA) program, under development by the Defense Advanced Research Projects Agency (DARPA), may be the closest thing to a true Big Brother program that has ever been contemplated in the United States. It is being designed to pull together as much information about as many people as possible into a large-scale database, and sort through it to try to identify patterns of terrorist behavior and ultimately to unmask the terrorists themselves—before they act.

When first publicized, the program was subject to intense criticism from privacy and constitutional watchdog groups, including the American Civil Liberties Union. In response to that criticism, Congress cut much of the program's line item funding in the fall of 2003 and the Pentagon convened its Technology and Privacy Advisory Committee (TAPAC) to draft a regulatory framework to guide data mining operations. TAPAC recommendations, made public in May 2004, recommended that a policy-level privacy officer and a panel of external advisers be appointed to identify and resolve privacy issues. The committee also made several technical recommendations, including:

•Use of personally identifiable data (names, social security numbers, phone numbers) should be minimized. Whenever possible, data mining on US persons for national security purposes should be anonymized and clear audit trails be kept.

•Whenever anonymized data cannot be used, or when data is re-personalized if a US person is deemed a risk or threat, the DoD must seek approval from the Foreign Intelligence Surveillance Court (FISC).

•As well-meaning as these recommendations may seem on the surface, they do little to stop domestic data mining and provide only the vaguest of guidelines for the program. Careful reading of the TAPAC document also reveals clear loopholes in most of the recommendations, including the lack of necessity of warrants or approvals in "exigent circumstances."

Homeland Security's Transportation Security Agency (TSA) is also developing its new CAPPS system (Computer Assisted Passenger Pre-screening), designed to perform background checks on the 100 million Americans who fly each year. CAPPS will require airlines to collect four pieces of information: name, address, phone number, and date of birth from each person making a reservation to fly. The TSA then will send those four pieces of information to a commercial data service —who will return a score intended to indicate a confidence level in that passenger's identity. Then the TSA will assess the risk that a passenger poses to national security, and law enforcement authorities would be notified if passengers receive a "high" risk assessment. Those who score "unknown" would be subjected to heightened scrutiny and those who have a "low" score would pass through the ordinary airport screening process.

The biggest problem with TIA and CAPPS is not the mathematics used to assess whether or not someone is a "risk", but the human decisions and biases that inform the construction and application of those equations.

Data Mining 101

Data mining is a blend of statistics, artificial intelligence, and data base research (1), and it tries to identify consistent patterns and systematic relationships among variables, and then to validate the findings by applying the detected patterns to new subsets of data. It focuses on producing solutions that can generate useful predictions, for example, to identify which portions of a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

company's monthly credit card transactions are likely to be fraudulent.

The process of data mining generally consists of three stages:

- Data preparation
- Model building and validation
- Application of the model to new data in order to generate predictions.

Data preparation is a necessary part of the data mining process that is used to improve the quality of data used as inputs in models. In the real world, data sets are often incomplete or contains unnecessary information or "noise" that must be removed. Data preparation usually involves data cleaning and transformation or selecting subsets of records. In case of data sets with large numbers of variables, analysts select certain features to reduce the number of variables. *Binning* is one such data preparation process in which, for example, a range of people's ages could be converted to bins such as 20 or under, 21-40, 41-65 and over 65. Most large databases also contain numerous errors usually compiled during the data entry process. During data preparation, obvious data errors are detected and corrected—such as children with birthdates earlier than their parents—and missing data is replaced. After the data is prepared, the nature of the analytic problem is considered to identify the most relevant variables and determine the complexity of the models required.

Model building and validation involves choosing among combinations of models based on the variability of the data in question or the nature of the inputs. A model can be descriptive or predictive. A descriptive model helps in understanding underlying processes or behavior. For example, an association model based on consumer behavior inputs could refer purchasers of one product to consider buying another complementary product. A predictive model, on the other hand, is an equation or set of rules that makes it possible to predict an unseen or unmeasured value from other, known values. There are a variety of different models which are considered to be the core of predictive data mining, including bagging, boosting, stacking or meta-learning and neural networks.

Bagging combines the predicted classifications from multiple models, or from the same type of model with different data inputs. For example, suppose one repeatedly sampled from a data set and classified the samples using an event tree. One method of deriving a single prediction from all of the different trees is to say that the final classification is the one most often predicted by the different trees. One type of simple bagging is commonly used in political elections, where the opinions of many different individuals are classified to form a single prediction. Weighted combinations of predictions, such as weighted voting or weighted averaging, are also possible and commonly used.

An algorithm for weighted prediction or voting is the *boosting* procedure. One method of boosting works by applying weights to the observations in the sample that are inversely proportional to the accuracy of the classification. In other words, one can assign greater weight to those observations that were difficult to classify and lower weights to those that were easy to classify, then apply the classifier (for example, a tree) again to the weighted data and continue with the next iteration. Boosting will generate a sequence in which each consecutive classifier is better at classifying observations that were not well classified by those preceding it. Techniques similar to boosting are commonly used in optical character recognition and speech recognition software.

The concept of *stacking* is used to combine the predictions from multiple models to yield more accurate predictions than can be derived from any one method alone. In stacking, the predictions from different classifiers are used

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

as input into a program, which attempts to combine the predictions to create a final best predicted classification. So, for example, the predicted classifications from different methods—two different tree classifiers and a linear model—are used as input variables into a neural network meta-classifier, which will attempt to "learn" from the data how to combine the predictions from the different models to yield maximum classification accuracy.

Some of the more sophisticated data mining operations use *neural networks*, or analytic techniques modeled after human cognitive and neurological processes. One of the most widespread architectures, multilayered perceptron with back propagation of errors, emulates the work of neurons incorporated in a hierarchical network, where the input of each neuron of the next layer is connected with the outputs of all neurons of the previous layer. Analyzed data are treated as neuron excitation parameters and are fed to inputs of the first layer. These excitations of lower layer neurons are propagated to the next layer neurons, being amplified or weakened according to weights (numerical coefficients) ascribed to corresponding intraneural connections. Neural networks attempt to predict new relationships from other observations of existing data and are widely used in the financial, credit and insurance fields in the United States.

The third stage of data mining, *deployment,* involves using the model selected as best in the previous stage and applying it to new data in order to generate predictions or estimates of the expected outcome.

These models take into consideration the needs of law enforcement organizations and policy makers and provide information for strategic decision making.

Introduction to Risk Assessment

The reason that decision makers seek quantitative evaluation of potential threats is to help them choose among different policies to minimize the impact of those threats. For example, a terrorism risk manager's principal objective might be to minimize the number of casualties that would occur in a terrorist attack. Metrics to help that risk manager make choices that minimize risk over the long term could be expected to produce the most favorable outcome, and thus the best public policy.

Events that are initiated by malicious human intent (e.g. by sabotage, proliferation of weapons, and terrorism) are very difficult to assess quantitatively because there is no data on the frequency of the initiating event and because the branching probabilities are dependent on the capabilities and intent of the terrorist.

A simple qualitative statement of risk is as a function of the probability of an event occurring times the consequences of the event.

RISK = THREAT x VULNERABILITY x CONSEQUENCES

In this equation, RISK is the "mean risk," or the risk of an unwanted event happening over a certain period of time, and THREAT and VULNERABILITY taken together form a probability of that unwanted event. In terrorism risk assessment, THREAT would be the intent and capabilities of a terror group to carry out a certain form of attack, and VULNERABILITY refers to specific weaknesses in our defenses against that attack. In quantitative risk assessment, events are discretized into a finite number of scenarios, and for each event identified as a scenario (s_i), one must determine the probability (p_i) and the consequence (C_i) to obtain a triplet.

Risk is then taken as the aggregate of all the triplets.

As in the data mining processes summarized above, risk assessments often use event trees to structure the analyses. In the case of a terrorism risk assess-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Event Tree for a Terrorist Risk Assessment

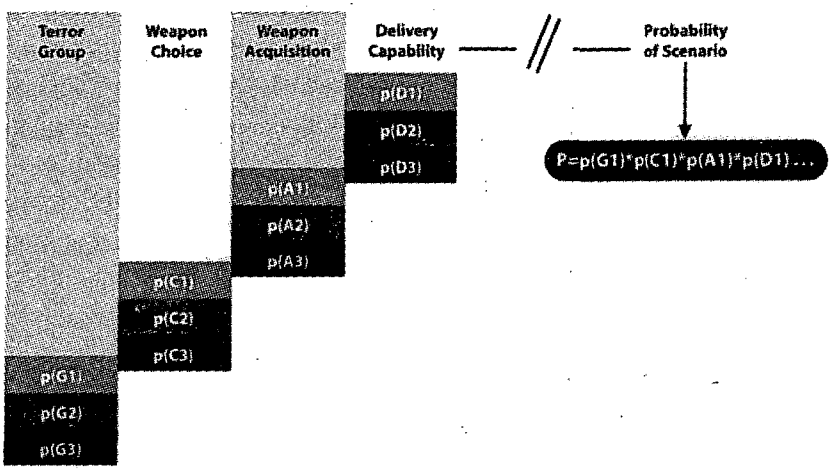


Figure 1 depicts an event tree with two or more branches at each junction to show the success or failure of each major event. Such event trees are used in conjunction with expert opinion and testimony to help analyze the risk of particular terror events.

ment, event trees with multiple branches at each event are used to show the possible outcomes of each major event. At the end of the tree, the number of branches represents all of the possible combinations of events, and the probabilities of the branches are combined so that for each end state, a probability is calculated.

In quantitative risk assessment, we build these event trees around a series of discrete events or scenarios. So, for example, in a scenario that depicted a terror group introducing anthrax into the airducts of a large shopping mall, two of the sets of numerous probabilities to be calculated are that of the group getting virulent anthrax and their ability to successfully deliver that anthrax as a weapon.

The most important parts of a risk assessment process are the qualitative, human judgments that determine the event probabilities. Not surprisingly, perhaps, the human elements are also the parts that are most undervalued by risk assessors and subsequently the ones in which the most errors occur. It is crucial to elicit information and inputs from diverse, interdisciplinary groups of people who are also qualified to give expert opinion on the range of issues included in the risk assessment. Because people have a tendency to like graphic representation of complex information, the models and graphs produced as risk assessment end-products seem concrete and real, when in fact they are only statistical expressions or best guesses. If care is not taken to ensure quality human input, the risk assessment process will be little more than, "garbage in and gospel out."

Design and validation of the data mining and risk assessment techniques to be implemented in TIA and CAPPS are closely guarded secrets. How they will identify patterns of potential terrorist operations and the accuracy of their predictions remains to be seen.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The potential consequences of receiving a high-risk score from either program should also be an issue of concern for all freedom-minded peoples of the world.

The Evolution and Perception of Surveillance

When I was little girl, I remember my father occasionally digging through his wallet for his social security card when he needed to enter the number on a form. By the time I was born, he had been carrying it for over thirty years and it showed its age in its worn and dirty edges. It wasn't a number he knew by heart like our home phone number or my mother's birthday; he had never memorized it, because he rarely needed to use it.

These days, we have to recite our social security numbers to nearly any merchant or service provider we have a monetary transaction with. In addition, we report our telephone numbers, employee numbers, birthdates, and driver's license numbers on a regular basis. Most supermarkets and stores now issue check-writers special cards that record their regular purchases and favorite brands. This all results in streams of information about ourselves and our likes and dislikes flowing into great commercial databases that are bought and sold by businesses hoping to penetrate particular demographic markets.

Internet spyware and accelerator tools have taken intrusion into our private lives to a new level as "cookies," surreptitiously inserted into our computers, track which web pages we visit and relay that information to advertisers. The advertisers in turn insert targeted ads into our web pages, hoping to entice us to buy their products. The government doesn't have to collect information on its citizens: it needs only analyze the mountains of information that already exist in the commercial sector.

So, over the last couple of decades, surveillance of our purchasing habits and demographic profiles by businesses has gotten increasingly more intense. Few voices have been raised in objection to this, perhaps because it has only resulted in spam in our in-boxes and telemarketers interrupting our meals. Many people, however, are protesting the government entering the data mining business, largely because law enforcement hopes to monitor all of us in the hopes of weeding out a few criminals and terrorists. The objection is not to being observed, it is to whom is doing the spying and why.

Those Who Do Not Remember History . . .

An example of the negative effects of intense government surveillance on society can be found in recent European history. From the 1940s to the 1980s, East Germany's security police—the STASI, or Stadtsicherheitdienst—penetrated deeply into the private lives of ordinary citizens, ostensibly to root out threats to state power. Coached in the art of societal control by the KGB, the STASI codified terror by urging coworkers and associates to report alleged suspicious behavior amongst their colleagues. With the assistance of state propagandists, they created an image of an ideal citizen who worked hard, played cleanly, and was content with the meager material rewards that East German society had to offer. Almost everyone deviated from this ideal in one way or another, but those who came to the attention of the STASI were suspect of crimes against the state and could be arrested, detained and interrogated about their subversive activities, which sometimes amounted to no more than reading banned books or listening to the popular music smuggled in from the decadent west.

Some 75,000 detainees were imprisoned and over 800 people executed during the STASI's reign. Notable or popular figures who persistently reject-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ed the state's attempts to control them were exiled to the west. But most frequently, those interrogated were released with only a warning to cease the activities deemed threatening to the state. For those released, the awareness of surveillance and the threat of future arrest invaded every aspect of their daily activities and changed their lives forever.

The societal result of this surveillance not only pitted the government against its citizens, but also forced people to change personalities like theatrical masks and create a public self to navigate the outside world and a true or private persona shown only to their closest friends.

Being German, the STASI kept meticulous records of who reported and spied for them. In the 1990s, many of these files became part of the public record of the reunified Germany. As more and more people accessed their personal STASI files, they sometimes found that their friends and co-workers had notified the state police of their activities. In some cases, husbands had informed on their wives and children had reported on their parents. Pervasive government surveillance had shredded the very fabric of German society by weakening family bonds.

Indeed, John Allison Anderton suspected his own wife was in league with the state against him as he fled from those who would imprison him.

. . . Will Be Condemned to Repeat It

Proponents of increased domestic surveillance assure us that the excesses and abuses of the STASI could never happen in the United States. But abuses have already been perpetrated by people entrusted with access to personal information.

An investigation by the Detroit Free Press in 2001 (2,3) found that police officers with access to a database for Michigan law enforcement had used it to help their friends or themselves stalk women, threaten motorists, track estranged spouses—even to intimidate political opponents.

In addition to these examples, we are already bombarded with state-sponsored entreaties to report on our fellow citizens. It is difficult to drive on a major highway without seeing at least one neon message suspended over the road urging motorists to "Report Suspicious Activity."

Are we in the United States really so different from the East Germans, the Russians, and the Chinese (or the Argentineans or El Salvadorans) that we can be sure to avoid the pitfalls of increased domestic surveillance? If we are not careful, our overconfidence could undermine a constitution and a judicial system that are envied around the world.

Our founding fathers declared our rights and liberties to be unalienable, which means that we are born with them: the state has neither granted them to us, nor can it strip us of them without the due process of law. The sad truth is that with voter participation at an all time low, most modern Americans don't realize the power that the individual citizen wields over the collective government. Public opinion polls taken over the last few years show that most people generally support the eroding of personal freedoms as a small but necessary price to pay to ensure our safety against potential terror attacks. What they don't understand is that willing surrender of our personal information to the needs of the state changes one of the fundamental tenets of American society and may irreparably alter the balance of power between the US government and its citizens.

Will we allow the shadowy threat of a potential bomb or biological attack to be the death of one of the crown jewels of Enlightenment philosophy? Or will we, in the spirit of our forefathers, stand up for our rights and renew our social contract with the state? Will we pre-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

serve our rights and freedoms as citizens or once again become subjects of an exploitative state?

The choice is ours . . . at least for a little while longer.

A Needle in a Haystack

By and large, the private sector is supportive of the government's plans to mine commercial databases. Conservative voices propound the benefits of safety and criticize the concerns over the death of privacy as irrational and misinformed. Keep in mind, however, that many technology and data companies stand to profit from the new programs. If the proposed TIA and CAPPS are fully implemented, government contracts to the information technology sector will soar and fortunes will be made or regained.

Commercial and government data bases already hold a great deal of information about us. If TIA is implemented, it will increase the amount of data that the government collects and holds on all Americans, and the haystack will grow larger still.

The war against terrorism is an important one, but we won't be able to find a needle in a haystack by bringing in more hay. Furthermore, terrorists are well practiced at the use of false identities and thus a system that relies on assigning a risk score to an identity will probably fail at preventing the next terrorist attack. (Although, I confess, it is humorous to see certain congressmen temporarily denied the right to board an airplane because their names appeared on a "No Fly List," I wonder why so many of them have been Democrats.)

Successful or not, once created, we are unlikely to easily be rid of either TIA or CAPPS. Failure, instead, may just spur the government into an ever-more-furious effort to collect ever greater amounts of personal information on ever more people in a vain effort to make the concept work. We would then have the worst of both worlds: poor security and a supercharged surveillance tool.

A government that strives to be omniscient, waltzing with a high-technology sector that hums its favorite tune—sounds like science fiction, at least to me. ■

References

Pregibon, D. (1997). *Data Mining*. Statistical Computing and Graphics.

M.L. Elrick, "Cops tap database to harass, intimidate. Misuse among police frequent, say some, but punishments rare." Detroit Free Press July 31, 2001.

M.L. Elrick, "Penalties uneven for data misuse. Some cops are sanctioned severely, some not at all." Detroit Free Press August 1, 2001.

About the Author:

Laura Kelley is a scientist in Washington D.C. who works on infectious disease and biological weapons issues.

MOVING?

Please send both your old and new address (and include both zip codes) to our subscription department.

Write to us at: *Analog Science Fiction*, Dept. NS, 6 Prowitt St., Norwalk, CT 06855-1220. Or on our website:**www.analogsf.com**

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Death As a Way of Life

Grey Rollins

Jack Sawyer and his unique sidekick confront the ultimate reality show. . .

Although my door stood open, a mute invitation to enter, she knocked lightly on the doorframe, seeking permission. I glanced up, eyebrows raised, and saw a plain, mousy woman in her forties wearing a severely cut cotton dress. I motioned her in.

Her lips were sucked between her teeth. "I, um, I was wondering if you were Mr. Jack Sawyer?"

"I am." Obviously having my name written on the door wasn't enough—perhaps a Hello-My-Name-Is label on my lapel would clarify things.

She took a tremulous breath. Now that she was closer to the light on my desk, I could see that she'd been crying. "I . . . I need you to look into something for me."

I nodded. "That's what I'm here for. Have a seat. Tell me about it."

She glanced down at my visitor's seat and I swear she jumped, as though it had startled her by unexpectedly popping into existence. She sat slowly and carefully. "They say you know all about cloning?" The rising inflection at the end made a simple statement into a question. The verbal affectation hadn't been attractive twenty-five years ago when she and her girlfriends were in their teens. Now it left the lingering possibility that she was mentally deficient.

I lifted my shoulders in a mild shrug. "I've died once. This body is a clone. If being reincarnated is enough to make you an expert, then I'm your man."

She nodded, looking down at her hands in her lap, chewing her lower lip. I've always found self-destructive mannerisms annoying, but if it helped her to ruminate on her lip like a cow chewing cud, they were her lips and she was of legal age. I hadn't had a case in over three weeks, and that one had ended badly. I wasn't about to throw her out just because I didn't like her personal habits.

She took a deep, slow breath, kind of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a sigh in reverse. "It's about my son. He's dead?"

In spite of the way she'd said it, I got the impression that it was a statement of fact, not a query. "How did it happen?"

Her brow creased in a frown as though I was being intentionally obtuse. "He was killed."

I nodded in what I hoped was an understanding manner.

Her face cleared as something clicked within her mind. I hoped it signified that she'd realized that I wasn't a mind reader. "My name is Nell Holland? My son's name was John Holland."

My turn for realizations. "*The* John Holland?"

She nodded.

"Ah. I remember reading about that. Something went wrong with his personality backup."

"That's what the police said, but I don't think it was the truth. Not the whole truth, anyway. I'd like you to look into the matter for me. I can't sleep at night for wondering what happened to my son." She undid the clasp on her pocketbook, reached in and withdrew a fat roll of assorted presidential portraits. "Will this be enough?"

In fact, it appeared to be enough money to buy a small house. "I'm sure that will do for starters, Mrs. Holland," I said in my best large-sums-of-money-don't-faze-me voice. "I won't be able to bring your son back, but I'll do my best to get answers to your questions."

She drew another shaky breath. "I got used to losing my son every week. It sounds callous to say it out loud like that, I guess, but it's true—given time, you can get used to nearly anything. But only because I always knew that he'd come back to me. Now it's different." She paused for a second before adding quietly, "This time he's dead forever."

In my opinion someone who kills himself once a week in front of cameras is a nut case. I don't care how much money he makes doing it. It's sick and it's in poor taste.

It's also morbidly fascinating to watch. Considering that *The Phoenix* had been the number three show in the nation, apparently I wasn't the only one who thought so. What that might say about those who watch such programs is something I try not to think about. When the common citizenry have nothing better to do with their time than watch death as a form of entertainment, a nation is in decline. Ask the ancient Romans.

Be that as it may, the mechanics of the show were simple enough. John Holland woke up as a clone in a fresh body every Tuesday morning. It took—and this I could confirm from personal experience—the next three or four days to regain sufficient physical coordination to do all the normal things like walk and comb your hair. If he was lucky, he might even get far enough along that he could whistle again, though it had taken me almost a month to get to where I could crank out a recognizable version of *Naima*. Then, the following Monday, John Holland would walk into the studio and either kill himself or have someone else do it for him. Always in some different way: strangulation, guns of various sorts, exotic poisons, you name it. If it was lethal to a human being and would run its course within a one-hour time slot, it was fair game.

I'd never looked into the legal aspects of how they got away with what would otherwise be called suicide or murder. The fact that it was voluntary factored into it. Plus the fact that he already had a cloned body simmering back at the clinic. Which meant that he was not *really* dead, except for the fact that he was, but he wasn't, but he was, but . . . it's enough to give you mental vertigo. Like I said, the whole thing's sick if you ask me, but every time the show started, there were lots of eyeballs primed for all the ads that paid the show's bills, and that's what counted in the long run.

Naturally, there were any number of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

groups who wanted the show stopped. The Catholic church, for one. For that matter, just about every organized religion—and some that weren't so organized—had come out against the concept. Cloned Life got into the fray early on, claiming that it was no way to treat a perfectly good clone when there were children in Africa who never had a chance to clone and stayed dead when they died. The American Psychiatric Association weighed in with their opinion, basically a gussied-up version of mine—the guy had mental problems. The current front-runners in the effort to get the show off the air were parents of children who had done copycat suicides. In the majority of cases, the kids had been careful to do a complete personality backup before pulling the trigger, but it's still hard on the parents. Not to mention expensive.

Finally, someone had managed to stop the show. Or at least they'd stopped John Holland, which amounted to the same thing.

Whereas John Holland had died because he lacked a personality backup, I wasn't likely to go out in the same way. In fact, I was suffering from an embarrassment of riches in that regard. After I had been shot, way back when, I had been woken up in the net. That's not novel, just rare. It costs a lot of money to wake up a human personality in a computer system, but my former boss had wanted some answers that I was in a unique position to provide and the company was footing the bill, so it hadn't mattered to me at the time. The unique thing about my particular experience was that I managed to copy myself elsewhere in the net, leap-frogging my way hither and thither among the diodes, using computer drives like lily pads.

In time, one copy had been read into my present body, there to resume life among the carnal. The rest of the copies . . . well, let's just say they slipped through the cracks. No one else knew they existed, so they weren't turned off when the time came for me to rise from the dead. Thus, I am the only person in all of history to find themselves alive in more than one place at the same time. Comes in handy for surveillance work.

My terminal shows me the same face that I carry around on the front of my head. The first time he did that, I felt as though I was talking to myself in the mirror. As Mrs. Holland said, given time you can get used to most anything—including having your mirror insult you before you even have a chance to brush your teeth in the morning.

"So the police gave up too easily," my alter ego said.

I nodded. "That's what she thinks."

"I'm a little hazy on what we're supposed to do with this. On the one hand, if we manage to find a murderer, Mrs. Holland will feel vindicated, the cops will get to close the case, and we'll make some money."

"Not a point to be glossed over," I pointed out. "Money is a singularly useful commodity."

"But on the other hand," the terminal continued. "If we *don't* find anything, Mrs. Holland will still be convinced that something is amiss, the police will regard us as a nuisance, and—"

"And we'll still make some money," I finished for him.

"I don't like it," he persisted.

"I don't like it, either," I growled back. "Do you have any other cases we can be working on? Something, perhaps, with a better chance of success?"

He looked glum. The expression didn't wear any better on his face than it did on mine. "No."

"Then let's see what we can do with this before the trail gets any colder than it already is."

"I hate it when you're logical," my software doppelganger said. "It makes me feel like you're reading my part of the script."

"I'll apologize on the second Tuesday of next week."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

His scowl was sufficient praise for me. "All right, for present purposes, all we need to do is figure out who, or more precisely, whether. We already know what, when, and where. The how and why are incidental as far as Mrs. Holland is concerned, although they would be of great interest to the police."

I nodded. "Agreed. But the motive and weapon—or at least method—might tell us a great deal about the murderer."

He mulled that over for a moment. "There's another, more personal aspect to this," he said, finally.

"What's that?"

"We need to get this taken care of before it goes any further. Whatever was done to John Holland could just as easily be done to us."

I confess that a *frisson* of unease prickled its way up my spine on hearing those words. It's one thing to go through life secure in the knowledge that you've got a safety net. It's another entirely to realize that someone could snatch that net away without your knowledge or consent.

I'm not brave because I want to be—I'm brave because I have to be. Time to take a deep breath and forge ahead, *because* there was something to be afraid of.

Never overlook the obvious. What *had* been done to us, once upon a time, was the complete destruction of my personality backup. I'd gotten the computer equivalent of the electric chair, without benefit of being able to sit down. Had it not been for the fact that I had already copied myself elsewhere by then, I'd be just as dead as John Holland. It's one thing to have a friend or loved one die, but to watch yourself die gives you an uncomfortably intimate perspective on how the Grim Reaper goes about his business.

My software self was checking on the details of how Holland had died, leaving me to interview a few of the living. I'd elected to begin with the show's producer, a man named Ivan Bach. His office was in the high-rent district, in a dark granite building that resembled nothing so much as an enormous tombstone. Freud would have been quick to spot a link between the structure's brooding visage and the underlying theme of *The Phoenix*. Bach's office was on the fifteenth floor, where I had to go through three layers of secretaries to get to him.

"I'd like to thank you for seeing me on such short notice," I said, hiking up the legs of my trousers before sitting in his visitor's chair.

"Oh, absolutely, absolutely. If there's even the slightest chance that it wasn't accidental, I want to know. Trust me. If John Holland was murdered, then it's the same as someone reaching into my pocket and taking money. Granted, he died at the end of the season—actually the very last show—but still, we'd already begun preparations for the premiere of the second season. Bigger and better in every way. Make no mistake. John Holland was a close friend of mine. Close. Like a brother. It broke me up when he died. Totally, completely wracked me."

I thought it probable that the profit motive constituted the vast majority of his grief, but maybe I'm overly cynical. "Do you know of anyone who'd want John Holland dead?" I asked.

He started to say no—I saw his lips start to form the sound—but he paused, dropped his eyes, and sighed. "Look . . . I don't know how to say this so that it doesn't come out sounding like we were a magnet for crackpots, but there were . . . ah, critics of the show. Some more vehement than others. John received at least ten or fifteen death threats that I know of." He held up his hand to forestall the comment I was ready to make. "And, yes, we were all well aware of the irony of threatening to kill someone who was already busily dying once a week. Of course, then it real-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ly happened and that put a different slant on things."

"I assume you gave the police the letters," I said.

He shook his head. "Not letters. Calls. From disposable phones. The police managed to trace a couple of the calls, but it was pointless. A guy buys a disposable phone with, say, ten minutes on it, makes the call, then drops the phone in a trash can and walks away."

"Fingerprints?" I prompted.

He shook his head. "Not even DNA. No sweat, no skin cells, no nothing."

"Carefully planned, then."

"Oh, yes. Very. It's easy enough to wear gloves, but to keep hair, body oils, and such off of the phone while you're talking . . . we're talking about a very careful operator, indeed. This was not an impulsive thing. It was carefully thought out ahead of time."

I frowned, thinking back. "I don't recall hearing about any death threats."

"Honestly, we wanted to go public with it. The show thrived on controversy. Death threats would have added even more spice—boosted ratings through the roof, perhaps propelling it to the number one slot. Who knows, someone might even have come forward with information. But the police wouldn't hear of it—they thought it would inspire others to do the same thing and muddy the waters. So we kept it under wraps." He rolled his eyes. "For all the good it did. Mind you, we don't even know whether the threats were linked to his death."

"Even with the death threats, the police didn't take the idea that Holland was murdered seriously?" I was having trouble making myself believe that they would have dropped the ball that blatantly. Granted, there've been times when the police seemed oblivious to the obvious, but this was stretching things a bit.

"Their position was that it's one thing to make a death threat. It's another entirely to carry it out. You have to have the means." Bach shrugged. "They never found any evidence of foul play. And—I'm playing devil's advocate here, mind you—it really is a bizarre scenario to think that someone could wipe John's personality and not leave a trace. It was just easier to say that it was a freak accident and let it go at that."

"Did you ever speak with John's mother?" I asked.

He grimaced. "I met with her not long after John died, but she was incoherent. Absolutely. Couldn't reason with her. Not that I disagree—at least in principle—about there being something suspicious about his death, but she was raving. A positive lunatic."

"She seemed all right to me."

"Huh! You should have talked to her then. If she's calmed down since, I'm glad to hear it. Ecstatic. She might be an asset if she could channel all that energy into something productive."

I refrained from pointing out that she'd shown enough initiative to hire an investigator—a damn sight more effort than he'd put into it. "Did Holland get along with the people on the show? Were you aware of any problems with girlfriends? Did he—"

Bach was shaking his head before I even finished. "No. Nothing. Absolutely not a hint of anything wrong. I mean, we're talking about a great guy here. The only reason he attracted the threats was the fact that he had this one harmless little quirk about offing himself once a week."

As I stepped back out onto the sidewalk, I reflected on what Ivan Bach had said. Setting aside that he was shallow and obsessed with money, I didn't think he was lying. I sensed that he was genuinely upset that John Holland was dead. To put it more crudely, I couldn't see him purposely depriving himself of the goose that laid his personal golden egg.

My software double was waiting for me when I came through the door. "I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hope your afternoon was more productive than mine," he said.

I said, "That doesn't sound good."

His face screwed up. "John Holland was done in by a doctored doc-in-a-box. The readout said it was getting a good personality backup, but it wasn't. The unit would pass the self-test. It would even pass the more complete diagnostics run by a field technician. But the data representing John Holland's final personality backup went wherever your lap goes when you stand up. When it came time to reincarnate him, the body reached maturity, but there was no personality to pour into his head. Needless to say, the police were unable to find conclusive evidence that the circuit had been tampered with."

"So, what about the archived backups? That's why we have redundancy."

He shook his head. "One was erased to make room for the incoming data. That's standard operating procedure. Only there wasn't anything coming in. The other two were 'mistakenly' erased as part of the same deletion. No information publicly available as to how that little boo-boo happened."

"Someone went to an awful lot of trouble," I said. "Assuming that he was, in fact, murdered."

The image in the terminal nodded. "This would have taken comprehensive knowledge of the inner workings of a doc-in-a-box. Assuming that it was a murder, it was a sophisticated, well-planned one."

My turn to nod. I went on to tell him about the death threats. That merited a raised eyebrow. "Really now, that's most interesting," he said. "If nothing else, it does tend to lend credence to Mrs. Holland's conviction that her son was murdered. Shall we assume that the death and the death threats are linked and see where it leads us?"

"The authorities chose not to pursue that avenue, so I guess it's up to you and me to work it through."

"Thus earning our fee," he observed.

I sighed. "Rent for us is like gravity to a fat man. It weighs most heavily on those who can least afford it."

My next target was Myrna Sments. She'd made her name first as a runway model, then made a lateral career move into acting. She and John Holland had met on the lot just before he was due to shoot a show. Knowing he was about to die had lent a certain piquancy to the encounter and she'd been waiting for him when he woke up at the reincarnation clinic. They'd been fodder for the tabloids for several months prior to his death.

Myrna had curves in all the places where they would do the most good. As a result my hormones began percolating as soon as I got within eyeshot. Not the best way for me to maintain objectivity, but that's life. Sometimes you just have to endure.

She was drumming her fingers on the plastic table top, looking irritated. I checked my watch. "What's wrong? I'm early."

"So you're early," she snapped. "That doesn't change the fact that this is all a waste of time. John's dead; and nothing will bring him back. Let's just get on with our lives."

I squinted at her. "I take it you're not much given to rending clothing, tearing hair, that sort of thing."

"Would it bring him back?"

"No."

"Then forget it."

"I love it when women get all sentimental. Makes me want to cry."

She glared at me. "All right, all right, you can turn off the sarcasm."

I tried for an innocent look. "Sarcasm? Me?"

"Look, John was a really good-looking guy. He was also sweet, generous, and a great lover. But there was a dark side. I mean, really, think about it. He was killing himself once a week. I mean, that's normal? Call me old-fashioned. To me, clones ought to be a . . . an emer-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gency measure, you know? And here's John, and he's kinda abusing the whole notion. It turns the whole thing upside-down, makes a mockery of the entire process."

I shrugged. "You were the one dating him."

Myrna closed her eyes, as though dealing with a repugnant memory. "For many people, there's a link between death and sex. Now that I look back, I see things that I didn't see when I was in the relationship. I kept telling myself that I was this nurturing type, you know? I mean, there's the nursing him back from death's door thing, the deeper trying to heal whatever was driving him to do this, and a dozen other rationalizations. Now, I look back and all I see is this sick sexual fascination. It was intense, you know, but it wasn't healthy. And to be quite frippin' honest with you, I don't like what I learned about myself in the process."

"Fair enough. But don't you care that there might be a murderer running loose?"

She rolled her eyes. "Murderer. Ha! They did me a favor, whoever they were. Not only did they get me out of an unhealthy relationship, but they put an end to his infidelities."

I blinked. "Infidelities?"

She favored me with a pitying look. "Do you think I'm the only one who fell into the spider's web? Not by a hundred. Turn your back and they're taking numbers, waiting in line."

"Nice fringe benefit," I noted. Perhaps not the most tactful thing I could have said.

"For him, maybe. For me, it was nasty. I could have dealt with one—or at least I tell myself I could have—but the production line thing got a little old."

"But he spent half his life dead or being reincarnated," I protested.

"And the other half being just as alive as he knew how to be!" she shot back.

I was beginning to see why she'd begun our chat on a hostile note. This must be hitting all sorts of hot buttons. However, I wasn't getting paid to run a feel-good session. "Someone could almost get the idea that you had a motive to kill John."

This produced another roll of her eyes. "Oh, puh-*leeze!* I can give you dozens of people with a motive for killing John Holland. Ivan Bach hated him because he was difficult to work with on the set. There must be a minimum of a hundred jealous husbands within a ten mile radius who'd love to drive a wooden stake into his heart just to make sure he *stays* dead this time. His mother was sick of him acting like he was Lord and Master of all he surveyed. The sponsors of the show got shafted, because he'd taken money to use the Life Care system on his show—but hey, sorry, it was Accu-Read that he actually used. That one, by the way, led to major problems. Lawsuits and court dates. Who knows what will come of it now that he's dead?" She spread her hands wide. "And that's just for starters. I haven't even gotten to all the people who wanted the show stopped on religious or ethical grounds."

"So motive isn't the problem."

"You wish your life were that simple," she snarled.

The stuff sticking out of the top of Lia Andrews's head had begun life as hair. I'm sure of it. Not that you could tell now. It looked like nothing so much as layers of stained glass. Thinking back, I realized that I'd recently begun seeing other women wearing their hair the same way, which meant it had just come into fashion and was probably good for another six months to a year before the next rave wave came in. Then, with the same uncanny ability to pivot in unison that you see in schools of fish, all women with any pretense of fashion consciousness would once again change their hair style, virtually overnight. Sadly, many women have a strong tendency to go with whatever is in fashion, not nec-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

essarily what looks good on them, and in Lia's case, the new hairstyle was a disaster.

I dragged my eyes away from the inverted layering—short on the inside, long on the outside, each layer a different color—and by dint of extreme effort managed to make eye contact and hold it for at least ten seconds. "Good afternoon, Ms. Andrews, I'm—"

"Call me Lia," she murmured softly.

I nodded. "Lia, then. Call me Jack."

"I'll call you anything you want if you'll have dinner with me tonight."

My sense of reality bounced once, hard. Just my luck. Myrna Sments was the one who made me want to bark at the Moon, but Lia Andrews—whose hair looked like a bunch of broken lollipops—was the one sending me smoke signals. And to think there are people who are convinced that this is the best of all possible worlds. If I could only find the Suggestions box, I'd drop in a note outlining a few improvements for the management to consider.

Lia was waving her hand in front of my face. "Anyone home?"

"Sure, sure . . . just . . . distracted." I said. The hell of it was that she had gorgeous eyes hidden under that grotesque hair.

She gave me an appraising look. "When you called, you said you were interested in the advertising campaign we were running on *The Phoenix*." She turned and gestured at a backlit wall display showing the steps necessary to reincarnate a normal, healthy human being. "As you probably know, Life Care has been in business for over twenty years now. We're one of the oldest and biggest firms in the field. In the beginning, we did experiments on pigs and mice, leading to several key patents . . ."

I didn't really want to know the history of the company, but I was afraid to interrupt her in the middle of her canned speech. After all, I still needed information from her and she wasn't likely to be forthcoming if I failed to show proper enthusiasm for the topic at hand.

It took nearly an hour before we got around to the details of their advertising, only to find that a great deal of it was off limits due to the pending lawsuit. What a waste.

In more ways than one.

"Does the phrase 'any port in a storm' mean anything to you?" my terminal cried in frustration. "The woman practically begged to be dragged back to your cave and ravished. So what did you do? You acted as though she had rabies."

"What she has," I said defensively, "is fashionitis, defined as a tendency to follow the herd due to inability to tell what works best for you."

"So cure her!"

"That's tantamount to committing suicide! To tell a woman that her hair looks like crap is to invite a painful, lingering death. They'd rather hear, 'Yes, dear, that looks wonderful.' Even if it's a lie. Hell, *especially* if it's a lie! Women claim they want the truth, but woe be unto the man who dares speak it."

The cad gave me a sly grin. "Hey, it'd be a great gimmick for *The Phoenix*. A new way to die." He turned and spoke out of the side of his mouth as though he was passing on a secret. "Ya know, I hear there's a job opening on the show."

"I have no intention of getting killed again," I groused. "Once was enough for me."

"From what you're telling me, it'd cure your lonely Saturday night syndrome," he coaxed.

"Sure, but at what cost?" I grumbled.

"Yeah, but—"

"Listen, I got her phone number, okay? I'll wait until the fashion gods accidentally decree something attractive, give her a week to get her hair redone, then ask her out."

"Cynical," he observed.

"Have you got a better plan?" I demanded.

"Nope. Cynical works for me," he said complacently. "But I want a personality

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

backup first thing the next morning so I can get the memories while they're still fresh." He then grumbled, "This sex-by-proxy thing is hell on my love life."

"You know, for someone with no hormones you sure pant a lot."

"If you don't like it, we could always trade places," he said.

I chose to ignore that one. "What are we going to do next?"

"What's this 'we' stuff, flesh-n'-blood? I ain't got nuthin' goin' in here. You'd better run off and talk to some more people."

"I hear and obey," I said, grabbing my hat.

John Holland had a father. Somewhere. I had set my other self to tracking him down and left to talk to John's agent. Getting to her office, sitting in the waiting room, and talking to her took half the afternoon, but produced no useful information. Two consecutive interviews had been a bust. That happens more often than I'd like.

I was half-way across town and didn't feel like going all the way back to the office to find out what was going on regarding John Holland's father. I called in from a tea room across the street from a pub that openly advertised available prostitutes. Or at least, that's how I interpreted the solicitation I received from the upstairs balcony. The young lady in question was wearing a red and black satin teddy only nominally covered by a matching robe that blew back in the breeze.

My original intent had been to enter the pub, but I took a window seat in the tea shop where I could observe the woman on the balcony. I must say that the teddy suited her figure admirably. She, unlike Lia, knew what worked for her.

"The answer is yes."

"That leaves begging what the question was," I noted, reluctantly tearing my eyes from the balcony across the way.

My doppelganger looked pained. "There are days when I hate having an analog counterpart. We digital types can multitask. Why don't you finish whatever you're up to and call me later."

"Because this could very well take a lifetime of intimate study," I said, my eyes stealing back across the street.

His eyebrow raised. "All right, all right . . . I know lust when I see it. Turn the phone so I can see."

I did so. There followed several seconds of art appreciation. "And she's out in public dressed like that?" he asked finally.

"More or less," I told him.

"Not that I wish her any harm, but aren't there any police in that corner of town?"

"Apparently not. Or else they've changed the laws regarding certain methods of earning a living."

"Well, *I* certainly don't intend to turn her in," my phone informed me archly. "You and I are working on a murder, and murder is a much more serious breech of law than some sweet young thing attempting to sway the morals of passers-by."

Having thus rationalized our failure to call the police, he proceeded to tell me that he'd found John Holland's father living in a town about an hour's drive north. He'd called, which was as good as me calling, in that it didn't require physical presence, and my twin could just as easily ask any question that I would have asked. As a result, he'd spent nearly as profitless an afternoon as I had.

John Holland's father had divorced his mother because of her alcoholism when the boy was only three. The courts, in their infinite wisdom, had given the child to the mother in spite of her addiction. Over the years, John's mother had poisoned the boy against his father to the point that they rarely spoke. His father was heartbroken over the way things had turned out, blaming John's mother for his aberration. His take was a literal interpretation of John's many

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

deaths as cries for help in a world where he couldn't get love any other way.

"Is it just me, or are we awash in citizens who have analyzed John's psyche and found him wanting in normality?" the face in my phone asked.

I nodded agreeably. "It's just you."

He snorted. "And I presume that you think the boy was as tightly wrapped as anyone?"

"Anyone with a death wish, sure. Seriously, I think it's clear that John was an accident waiting to happen. He just managed to find a way to make it happen over and over." I sighed. "So we didn't really learn anything from his father, either, huh?"

"Not so that you'd notice. Filled in a few blanks in his past, but I don't see that we're any closer to finding out who did him in."

Just then my tea arrived. I took a sip. "What if all these doom-sayers have a point? Supposing John had a hand in his own death. What if he didn't *want* to come back again?"

"So you're saying it was suicide?" he asked.

I see-sawed a hand. "Yes and no. Unless we postulate that John had enough technical knowledge to rework his doc-in-a-box, he had to have had help."

Ever the cynic, my double chuckled. "It's a pity it didn't get filmed. He found yet another way to die. Bach would be thrilled to run the episode, I'm sure."

I grimaced. "I've said it before and I'll say it again: I don't like this case. There's something slimy at the bottom of this, and the closer we get to it, the less I like the smell. It doesn't matter whether it was John's mental problems or murder—the case stinks."

I finished my tea a few minutes later and walked back out into the street. The beautiful lady leaned over the balcony rail and blew me a kiss. I pretended to take it on the cheek, tipping my head with the imaginary impact. She giggled and called, "I like you. Come see me sometime."

I doffed my hat. "You'll know me. I'll be the one with the pickle in my pocket."

I tried to regain lost momentum by going to see Accu-Read, but the person I needed to see wasn't in. Not expected back until Monday, in fact. By this point, it was clear that the Detective Gods had decided that I was to take the rest of the day off. Being obedient to Their will, I stopped by the liquor store on the way home and picked up a fresh bottle of Lagavulin. All the best detectives lubricate their thought processes with Scotch, and if I wasn't among the best, I could at least pretend.

My alter ego stared suspiciously as I walked through the door. "What's in that bag?" he demanded.

I shrugged carelessly. "Nothing."

"'Fess up, bub, or I'll murder you myself and make sure it's *my* copy of our personality that goes into the clone when it wakes up. Then it'll be you sitting in here watching *me* drink the good stuff."

I sighed with theatrical dejection. "Okay, you caught me." I put the bag on the counter, placed my hands on either side, and slowly pulled the bag down the sides, revealing the familiar green box. Then I lovingly slid the bottle from the box and stood it on the counter. A potable strip tease.

The image across the room moaned. "You are an absolute devil. A beast. You have no redeeming features whatsoever. To bring such a thing into this apartment when you know I can't have any is an affront to human dignity."

"Then it's a good thing you're not human," I said.

"I'll have you dragged into court for cruel and unusual punishment," he warned.

"To do so, you'd have to admit that you exist," I pointed out. "Then you'd have to fight for your right to *continue* to exist. My advice is to stop while you're ahead."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He grumbled, he muttered, he called me bad names that I know for a fact we did not learn at our mother's knee, but in the end he relented. That didn't mean he quit casting covetous glances at the bottle.

"All right, let's get down to business," I said, easing myself onto the couch with the bottle and an empty glass, freshly washed. "What do we know?"

"Nothing."

"Really?" I asked.

"Face it. He was either universally loved or universally hated. He wanted to live, he wanted to die. It was an accident, he was murdered, he suicided. Everything we think we know about the guy is contradicted by something else. And as far as we can tell at this point, each point of view is of about equal veracity."

I nodded judiciously. "Good . . . good. But what do *we* feel is the truth of the matter?"

"Gimme some of that Lagavulin, and I'll tell you any kind of truth you want to hear, up to and including religious revelations."

"If we nail this case, I'll even spring for a bottle of Highland Park. Now put those silicon brain cells to work, lad, there's money to be earned."

He squinted at me. "I think it's obvious that John had a mental problem or two."

"That's pretty much a given. Given what you got from his father, I'm curious about the whole family dynamic. His mother an alcoholic? I didn't pick up on that when she came into the office."

"What you don't pick up on could fill a dump truck," he grumbled, still eyeing the Scotch. He then thought for almost an entire minute, equivalent to me spending a year on the problem. "The way I see it, we've got three choices. Either his father was blowing smoke, she cleaned up her act, or she's got a pretty erratic personality. I vote for the last option. You weren't available to talk to John's father, so we'll have to rely on my assessment for the moment. I think his father was telling the truth. Note also that Ivan Bach told you that Nell Holland acted crazy after John died, but she was reasonably calm when she came to see you. What we've got here is a woman who can turn on a dime, emotionally. One day she's vanilla, the next day she's pistachio. Growing up with a mother like that would be enough to drive anyone over the edge."

I mulled that over for a moment, then said, "Okay, so John is born. Mom's got a problem with alcohol, dad leaves, the kid stays with mom. She's a little loopy. He develops this itch for attention that he decides to scratch by killing himself once a week on a national program. It goes nearly to the top of the ratings chart. Now he's got more attention than he knows how to handle. People are fawning over him from dawn to dusk, and he's got money to burn. Then what?"

The face in the terminal spoke. "I don't think it works in his favor, really. He's still so insecure that he sleeps with a security blanket. He's not happy, deep down inside. What he really wants is that good old-fashioned family love, not showbiz air-kisses. He's going to keep trying to send a message to folks to pay attention to him. Real attention, not the low-cal variety."

"So you're favoring the suicide theory?" I asked.

He frowned. "Not necessarily, though I'd like to know whether he ever tried to suicide before. That might give us a hint."

Something struck me. "You don't suppose he left a copy somewhere else in the system, do you? Another backup, so he could pull a Tom Sawyer and watch his own funeral."

He shook his head. "I can't say with one-hundred percent certainty that he didn't, but I looked in all the obvious places when I was investigating the doc-in-a-box failure. Besides, he'd need a confederate on the outside who'd be in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a position to know when to initiate the cloning process—unless you want to postulate that he's awake somewhere in the system."

"Well, we're hip-deep in candidates for that. Ivan Bach would love nothing better than to pull that particular rabbit out of the hat in time for the fall season. Surely, his mother would like to have him back—"

"I can't see her bothering to drag us into this if she's going to bring him back herself," he interrupted.

I nodded slowly. "I concede. Still, I just can't see it. For all the people who'd benefit from it in one way or another—himself included, obviously—it's just too contrived. Like a bad joke."

"And you're an expert on bad jokes," my terminal muttered darkly. "Ivan Bach couldn't pull a stunt like that more than once. If John Holland were ever to die again, people would yawn and say, 'Yeah, yeah, he's gonna come back just like last time.' Besides, why such a drastic maneuver when the show was doing well? Granted, they weren't in first place, but they were already pretty much guaranteed a decent start in the fall lineup."

I couldn't fault his logic. "So we're back to murder."

"Which means we need someone with a motive."

I grunted and settled deeper into the cushions, taking a sip. "It seems like everyone gains by his death."

"Ivan Bach loses," my other self pointed out.

I shook my head, admiring the amber color of the contents of my glass against the light from the lamp on the end table. My subconscious had just told me something it had been holding in reserve, so I decided to throw it on the table for discussion. "Not really. The more I think about it, the more I think the show would have stumbled had it gone into a second season. There's no question that it was doing well ratings-wise, but it would have gone stale as soon as they ran out of unique ways to kill him. Face it, the third time he died of poisonous mushrooms it would get repetitious. The fifth gunshot wound, the second axe-stroke, the fourth time he broke his neck . . . you get the idea. No, the way I see it, the first season was a one-shot wonder."

"No pun intended, I'm sure."

I smirked at him, then said, "To get stuck with a case like this . . . it's like I'm working off bad karma from my last incarnation or something."

"Not to belabor the obvious, but you *are* reincarnated," he pointed out.

That brought me up short.

My alter ego then sneered. "Kinda makes you want to shape up, doesn't it?"

There wasn't much I could do over the weekend. My digital doppelganger, however, was able to crawl through virtual back doors and check on John Holland's past. There was no record of him ever having attempted suicide. That didn't rule it out, of course. It was entirely possible, for instance, that he had swallowed a bottle of sleeping pills, but had vomited them out before showing up as an entry in some hospital's billing system.

We discussed the problem endlessly, but got no closer to a solution. As my terminal had noted, there were too many contradictory stories. We needed a wedge to crack the thing open, but all we had were hammers.

Monday morning rolled around in its own good time. At least I was spared the cheerful rising sun bit—it was raining heavily; as dreary a day as you could ask for.

Accu-Read had their local offices in the kind of generic office building that I swear is mass-produced in Des Moines, then shipped out as a kit. The requisite proportions of glass and brick were obvious from the road. Given the dark, overcast skies, the interior lighting gave me an X-ray view of what the people in-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

side were doing as I turned into the parking lot. I hoped against all odds to catch a glimpse of some steamy hanky-panky in the boardroom, but for the moment everyone appeared to have their libido under control. Curses.

The lobby was as efficient and nondescript as I expected. The directory on the wall had the obligatory white plastic letters on a black felt background. My destination was on the second floor. The stairs were right behind me. I took them, feeling virtuous for taking a pass on the elevator.

A hallway of closed wooden doors greeted me on the second floor. I entered the one sporting the Accu-Read logo without knocking and found the inevitable cookie-cutter receptionist that had come down from Des Moines with the office kit. She fixed me with a polite smile, listened attentively while I described my mission, then asked me to have a seat.

Say what you will about the pre-fab office building with the paper doll behind the front desk, it's an efficient system. Two minutes later, I was ushered into an office down the hallway behind her. I'd barely had time to crack a magazine.

Carlton Preston wore a sweater and slacks that made him look as though he'd just stepped off a 1950s era college campus. "And how can I help you, Mr., ah . . ." He peered closely at my card again.

I helped him out. "Sawyer. Jack Sawyer. I'm here regarding John Holland's death."

"Oh. Yes, quite tragic."

"Avoidable, too. If the box had worked properly, then John Holland would be alive today."

His face twitched. "Mr. . . . ah . . . Sawyer, there's no need for you to take that tone of voice."

"So you don't regard a death involving one of your machines as a crucial matter?" I'll admit that I was playing dirty. I wanted to see if it was possible to goad him past the court gag order that Lia had mentioned.

"That's not what I said. Not at all. In fact, we're very concerned about the matter. It's just that . . . who did you say you represent?"

"John Holland's mother. She fears that a lawsuit may be in order." The last part was pure fabrication on my part, but it had the desired effect.

"This has been a nightmare for us," he admitted. I was afraid that he'd start wringing his hands, but he managed to refrain from such an unseemly display. "To have someone famous die while using our system . . ." He shook his head. "I don't know what to say."

"Why don't you begin by telling me what happened," I suggested.

Preston nodded. "All right. The box was right there in the room. It was always off camera, but just a short distance away. That was written into the contract. John wanted to be able to keep as many memories of his life as possible, so he'd do a personality backup literally just before walking onto the set."

"Hang on a second. So you're telling me that he had no memory of actually dying?"

Preston stared at me as though I were mad. "Of course not! It's not as though he could do a personality backup *after* he died. Besides, who'd want to remember something like that? The pain, the bleeding . . ." he shook his head in revulsion. "No. When his clone woke up, his mind was charged only with the memories of his life up to the moment just before he . . . well, died."

I'd gone over it in my mind a thousand times, but somehow I'd missed the fact that Holland himself had no memory of his deaths. How strangely sanitary. "So, did he ever watch the program? To see himself die?"

Preston shrugged. "I couldn't say. I don't think so. I talked to him a number of times, but it always seemed to me that he was talking about someone else's death. The fact that it was him dying . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it was just what he did for a living. He was really very calm about it. Detached, you might say."

"Just out of curiosity, how did he end up advertising Life Care, but using your machine?"

"He'd always had an Accu-Read at home. It was what he grew up with. He felt comfortable with our user interface. When *The Phoenix* began, he naturally kept using the Accu-Read system. That Life Care ended up being the company he endorsed was due to the fact that they offered more money. To be quite frank, we were complacent. We thought we had the account in the bag since he used our system. Then Life Care came in out of left field with this huge sack of money and the show's accountants decided that *they* were the official sponsors. In hindsight it's obvious that we were naive, but we really thought we had it sewn up." His mouth pursed as though he'd tasted something disagreeable. "We learned from the experience."

"Couldn't Accu-Read have advertised too?" I asked.

"Well, yes, but with John Holland's endorsement in the Life Care ads, we'd have been relegated to a me-too status. We couldn't both claim to be endorsed by John Holland. Our final position was simply to make it an open secret that he actually used the Accu-Read system." His expression turned rueful. "In the end, that blew up in our faces."

"So what about the box? Did you ever figure out what happened?"

"The police impounded the system as soon as they got there. It was carted off in a truck. Two of our top technicians were allowed to watch as the police went over the machine, but they weren't directly involved. There was general agreement—at least among us here at Accu-Read—that the machine had been tampered with, but it was more subtle than a disconnected wire. The software had been changed. His personality—the actual bits of information that came in off his scalp—was rerouted into what the programmers call the 'bit bucket.' The data from his personality backup was simply ignored."

"So it just evaporated?"

Carlton Preston nodded slowly. "Something like that. And I can attest that our business has done likewise since John Holland died. It's been the worst sort of crisis for us."

"Let me make sure I've got this straight. You had a machine there on the set of *The Phoenix*. It was in use weekly. It worked one week. The next week it didn't. John Holland walked in, had his personality read, went on set and got himself killed according to whatever the script called for. But when it came time to be reincarnated—"

"The flesh was willing, but the spirit was weak." Preston had the grace to smile apologetically.

And to think that people find my sense of humor lacking. "But it seems obvious that someone had tampered with the machine in the meantime," I protested.

"It does, doesn't it?" he agreed.

"How could the police miss out on something like that?"

Preston's face turned sour. "Because their outside expert told them that it was a software error."

A sickening certainty came over me. "And their software expert—"

"Conveniently enough, happened to be Life Care's top technician," he finished for me.

"And the police didn't see the possibility of a conflict of interest with a competitor passing judgment on your machine?" I asked.

"That was their one oversight. You see, they went in with the preconceived notion that it was an accidental death, and he pretty much confirmed their suspicions."

I frowned. "Couldn't you have demanded that another technician look over your machine?"

If possible, Preston looked even more

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pained. "There are two problems with that scenario. One is that Accu-Read and Life Care are the two most sophisticated systems on the market. By quite some margin, I might add."

"So another tech wouldn't know what he was seeing," I said.

"Exactly. This is such a subtle and complicated corner of the technology market that there are very few technicians out there who can grasp what's going on."

"And the other problem?"

"Proprietary technology. We don't *want* other companies knowing how we do what we do. We're in a very, very difficult position. On the one hand, we need to clear our name. On the other, we need to do it without giving our secrets away." He sat back in his seat. "Not an enviable position to be in, I assure you."

"And Life Care's top technician has seen your top of the line machine," I added.

"Dark days are ahead for Accu-Read, Mr. Sawyer. Dark days."

All of which put Life Care squarely in my sights. From the beginning, it had been clear that if John Holland's death had been murder, then someone knowledgeable had tinkered with the Accu-Read machine. Assuming that Carlton Preston was accurate in his assessment of the reincarnation market, there were only two groups of people competent to understand the Accu-Read machine: Accu-Read technicians, and Life Care technicians.

I turned and looked over my shoulder at the terminal. "Lia told me, but I'm drawing a blank . . . what was the name of the Life Care account representative who was assigned to the *Phoenix* account?"

"Mere flesh and blood fails to remember. I, however, being silicon, am superior. I remember everything. The name you seek, mere mortal, is Matthew Darst."

Every word being true, it was difficult for me to come up with a quick rejoinder. I said, "And would you be so kind as to crack the Life Care computer's fire wall? If you can get in, I'd like to know if there was a sudden burst of R&D at the beginning of the summer, right after John Holland died. They won't have been able to port anything they learned from the Accu-Read system directly into their technology. They'd have to experiment with it a little to get it to work with their machines. I'm counting on that showing up as lab notes, expenses, something."

"I like it. I'll get right on it." He made a show of cracking his knuckles. "Yep, 'bout ready to do some *serious* hacking today." He gave me an appraising look. "You know, when you put down that bottle, you're not so bad to work with."

"You've reversed cause and effect. It's *because* of the Scotch that I'm capable of such transcendental leaps of logic," I assured him.

His reply was not printable.

Lia Andrews was not who I needed to talk to at Life Care. The one I really wanted to talk to was the tech who had looked over the Accu-Read machine, but he'd be harder to get to than the Queen of England. I was going to have to settle for Matthew Darst, the account executive who had handled *The Phoenix*.

It might have been my imagination, but I got the impression that my presence was not as welcome the second time around. Lia Andrews had been warm to the extent of radiant heat. The receptionist I'd spoken with on arrival was remote and frosty. She'd told me to have a seat; that Darst would be with me shortly. So I sat.

And waited. And waited. And waited.

After a hour and a quarter, I'd been through every magazine in the waiting room and was tired of reading about the illicit money being earned by the American president and his cronies. No one

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

seemed disposed to do anything about it, so why bother with the breast-beating? It was just synthetic outrage, conjured for the single purpose of selling news product in the most callous and cynical sense of the words.

I tossed the magazine on the table and walked back over to the receptionist. She favored me with exactly the same canned smile she'd given me when I first arrived. I asked when I could expect to speak with Darst.

"Sir, if you'll have a seat, I'm sure someone will be right with you. We're very busy, you know."

The slightest hint of an edge to her voice was the first indication I'd had that I was speaking to an actual person instead of an automaton. I gave her a wicked smile. "So busy, in fact, that you've had time to do your nails, talk to your boyfriend twice, and read for twenty minutes in the romance novel you thought I didn't know about because it was in your lap."

Involuntarily, she glanced at the guilty fingertips.

"They were dark red when I came in. Now they're pink. Going from weekend mode to working mode, I imagine. Besides, the smell of acetone is distinctive. Now, do you mind punching a button on that nifty communications console you have there in front of you and getting the ball rolling?"

It would have been nicer of me to go back and sit down. Since I wasn't feeling very nice, I stood there glowering at her. She tried to look unconcerned, but her freshly painted fingers were twitching, unsure whether to obey her will or mine. Mine won. With an exasperated sigh, as though I was forcing her to do the most onerous sort of drudge labor, she pressed a button and asked Darst if he would *please* find time to talk to me.

In about sixty seconds, Matthew Darst appeared next to her desk dressed in a conservatively cut business suit. He looked at me curiously. "Mr. Sawyer?"

I nodded. "Yes."

He seemed perplexed. "Is there something I can do for you?"

"I'm investigating the murder of John Holland. It seemed logical to speak with everyone who had anything to do with the show."

His brow furrowed slightly. "Oh. Well . . . hmmm. Would you like to step back to my office? We can discuss the matter there." He gestured towards the corridor behind him. As we walked back towards his office, he spoke over his shoulder, "I'm not sure I understand why you're here. John Holland's death was determined to be accidental—an equipment failure, I believe, in the Accu-Read system."

He stopped at a door and gestured me in. I chose a seat before speaking. "There's some question as to whether the investigation was tainted. I'm exploring other avenues that have recently opened."

The frown he exhibited earlier appeared again, more deeply. "Other avenues? Of what sort?"

"I'm not at liberty to say," I said mysteriously. "I'd like to ask you to clarify your relationship with *The Phoenix*. You were their account executive, I believe."

He nodded. "Yes, I was. Still am, I suppose. We have yet to hear a decision from the network as to whether they intend to continue the show this coming fall."

"With someone else, I suppose?" You never know, they might have Holland stuffed away in one of their machines. It would be one hell of a coup if they could come up with Holland when Accu-Read had failed.

Darst wasn't falling for that. He gave me a look intended to convey his distaste for people with substandard intelligence. "Of course."

"You were on the set regularly, I'm told. Is that correct?"

Darst nodded. "Yes. Every show."

"Is that usual? I mean, surely it wasn't necessary for you to be physically pre-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sent. You weren't behind the camera, you weren't handling the lighting, you weren't handing out scripts or whatever. Once you placed the ads, your job was done. There wasn't any need for you to be there." I wasn't sure quite where I was going with all this, especially since it was more likely that their tech would be a better suspect, but something about the defensive expression on his face made me want to press.

"Mr. Sawyer, *The Phoenix* was an important account for us. *Very* important. It was well worth any minor inconvenience on my part to be there in case something came up."

There was something there. I could feel it lurking just beneath the surface. "Something like the uncomfortable fact that John was using a competitor's product for his reincarnations?"

"But he endorsed *our* product!" he protested.

"On the air. But the actual unit he used was an Accu-Read unit, not a Life Care, right?"

He grimaced. "Well, yes, but that's hardly relevant—"

"John Holland is dead. That's not relevant?"

"Well, yes, and we were all devastated to hear it of course, but really, shouldn't you be talking to Accu-Read? It was their system that failed and cost Mr. Holland his life."

"If it failed," I said.

An even deeper frown. If his eyebrows dropped any lower, he'd be wearing them as a mustache. "But," he spluttered, "that's what happened. It failed. Read the reports." He waved his hand vaguely in the air. "I'm sure the police have reports."

"Fascinating," his terminal said.

Darst blinked. "Excuse me?"

I shook my head innocently. "I didn't say anything."

"I heard you. You said, 'Fascinating.'"

I shook my head again. "Not me."

His eyes drifted off. I knew what he was thinking. He'd been looking right at me and hadn't seen my lips move. Yet, he'd heard my voice. I might be a ventriloquist. The possibilities churned within his mind, distracting and confusing him.

"We have reason to believe that the police reports are wrong," I told him.

Darst shook his head. "What? Uh . . . oh, wrong. Yes . . . I mean no. The police reports couldn't be wrong."

"We have evidence that Life Care tampered with the Accu-Read unit that John Holland used on the set. The software was reprogrammed to give self-test readings that indicated that the unit was fine. When John had his personality read, the data was simply discarded. When the read was finished, the software indicated it had completed a successful read, in spite of the fact that it had done nothing of the sort. It also deleted the previous backups, so there was no chance of using them—John would have lost a week or two of his life, but considering the alternative, it would have been a small price to pay."

Matthew Darst licked his lips. I wouldn't go so far as to swear there was a sheen of sweat on his forehead, but he certainly didn't look happy. "But the police—"

"Were wrong," I finished for him. "In fact, they were given inaccurate, misleading information by their outside consultant, who just happened to be an employee of Life Care. Your company. I'm still curious as to why they would not let Accu-Read look at their own machine."

"Because they might have done something to it! Something to deflect the blame. They had an interest in this, too. Once their machine failed, they would do anything . . . anything to keep it from being their fault. There were immense sums of money at risk. We pointed that out and the police decided that we were right. So we offered to send our tech—"

"To restore the original program into the Accu-Read machine so that it would be impossible to prove that it had been

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tampered with," I put in.

Darst managed to look outraged. "You can't prove—"

"Actually, I have here a memo, dated December 3rd, that outlines exactly such a plan," his terminal said.

It would be difficult to believe that a human face could show any more consternation than did the face of Matthew Darst in that moment. He could see me sitting in front of him, and yet my voice was coming from his terminal. Clearly, my other self had finally managed to insinuate himself into the Life Care computer system.

"How. . . ?" he gaped.

I shrugged. "I have a strong personality. Too much to contain in one mortal body. Sometimes a little bit leaks out. As you can see, I've had a strong influence on your computer system."

His eyes fell to the screen, which remained obstinately blank. "That's impossible."

"Nothing is impossible. Some things are just harder to believe than others," I assured him.

"While we're on the topic of belief," his terminal said, "you won't believe what else is in here. The entire plan, detailed in memos between the CEO of Life Care, Matthew Darst, and their head tech, to discredit Accu-Read and ruin them, while in the process stealing their technology. Beautifully detailed. Good thinking. Alternatives and contingencies for every possible problem that might come up. Till now, it's all been going pretty much their way, although I have a feeling that's about to change."

I gave Matthew Darst a grin. "What can I say? Your luck just ran out."

"I called the cops as soon as I found solid evidence. Gave 'em an anonymous tip. They should be arriving soon," the terminal said. "While I'm at it, I think I'll crash their system so no one can delete any of the evidence before the authorities arrive."

To Darst, I said, "A bold plan. It might even have succeeded, if it weren't for a mother's love."

"I don't know how you did that," Darst said, gesturing at his terminal, "but to do so you had to hack into our system and that's not legal. Our lawyers will tear you to pieces, and any evidence you might gain will not be allowed in a court of law. You don't have a search warrant or—"

I held up my hand to stem the indignation. "I was sitting right here in front of you the whole time. I can't both be hacking your system and sitting in your office with my hands in plain sight at the same time."

His anger was getting the best of him, but he was unable to think of anything to say.

I stood. My work was done. I stopped at the door. "Oh, and one more thing."

"What?" he snapped.

"I've always kinda preferred the Accu-Read system, myself. Your user interface stinks."

And with that, I left.

"Murder, corporate espionage, tampering with evidence, perjury . . . the case is shaping up beautifully," my terminal said.

I nodded, watching the highlights flicker in the Highland Park swirling in my glass. "A nice bit of work, if we say so ourselves."

"And we do," he agreed modestly.

I exhaled noisily. "And all from a case that looked like a loser in the beginning. Still, I'm glad it's over with."

"And the money's in the bank."

"What didn't go to cover the bills."

He snorted. "And to the liquor store."

"Look at it this way. The money I spend on Scotch goes to support the hard-working citizens of Scotland, a nation that has given the world far more, proportionate to its size, than the world has given it. Think of it as a balance of payment scheme."

My alter ego coughed in indignation. "Did you think that up all by yourself?"

"Yep," I said agreeably, taking a sip of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nectar. "Look, I'm sorry that John Holland died, but I'm happy to be alive, justice has been done, and there's money in the bank. What else do I need?"

"A woman."

I scowled at him. "Now, why'd you have to go and bring that up?"

"Just my way of pointing out that you and I are in the same boat. You no-gots, and I no-gots."

"And I'd better stir myself and go get, is that it?" I asked.

He nodded.

"I wonder if that young lady in the red teddy is free this afternoon," I wondered aloud.

"That's immoral, indecent, decadent, and perverted," he noted. "Now that I've put in the obligatory protest for temperance and self-restraint, let me say that I like the idea."

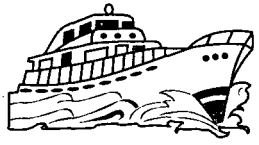
"For all you know, she may simply be a free spirit. Casting aspersions on her reputation does not reflect well on you."

"Nor on you, since we are one and the same. We both made the same assumptions."

Trapped again. One of these days I'll figure out a suitable strategy for dealing with that. "There's always Lia, assuming she'll still talk to me after we trashed the company she works for. Who knows? She may even have changed her hair by now."

He chuckled. "I'm already dialing her number."

(EDITOR'S NOTE: Jack Sawyer appeared earlier in "Or Die Trying" [February 2001].) ■

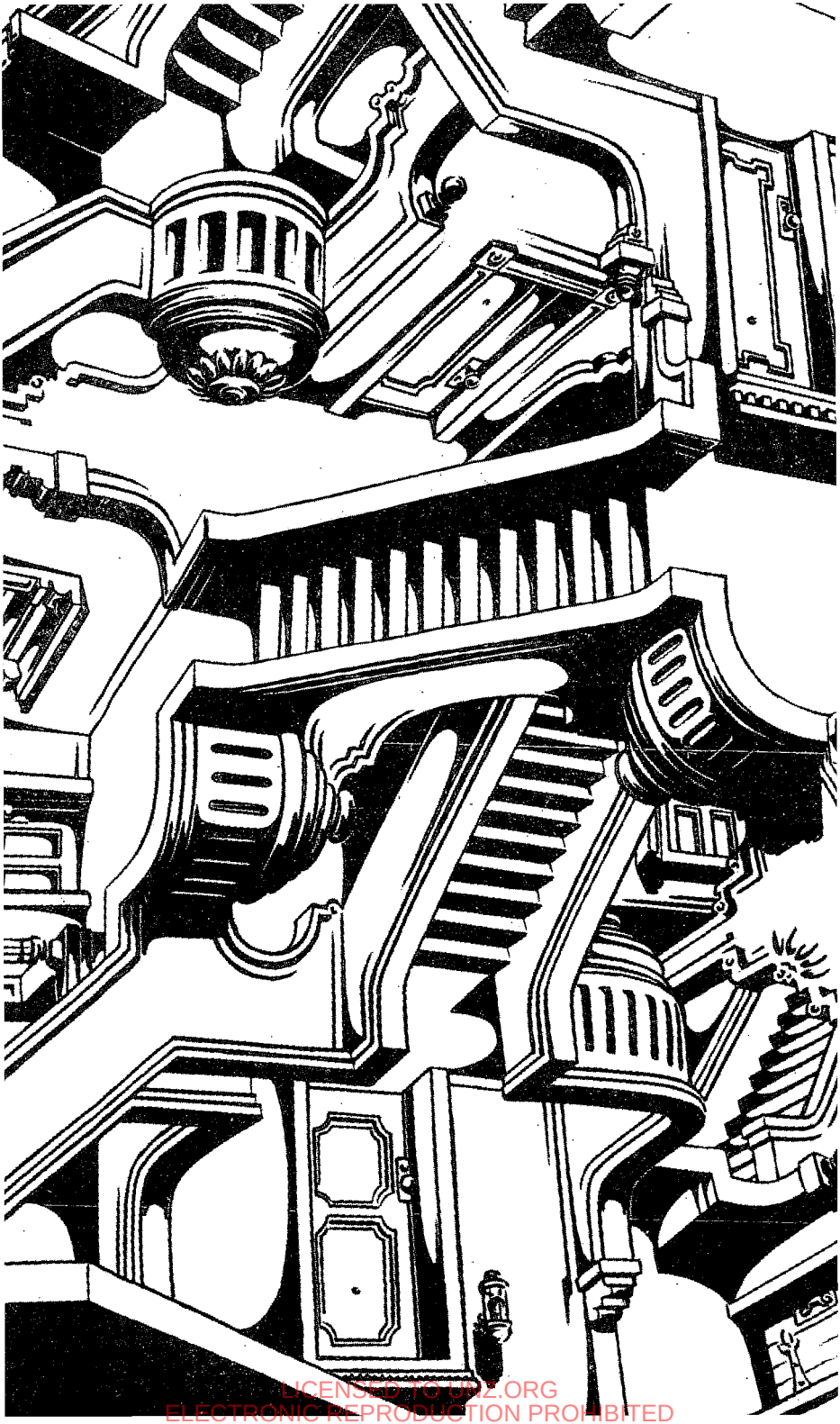


Cruise the Western Caribbean
with Kevin J. Anderson, Rebecca Moesta, Robert J. Sawyer, and Stanley Schmidt.

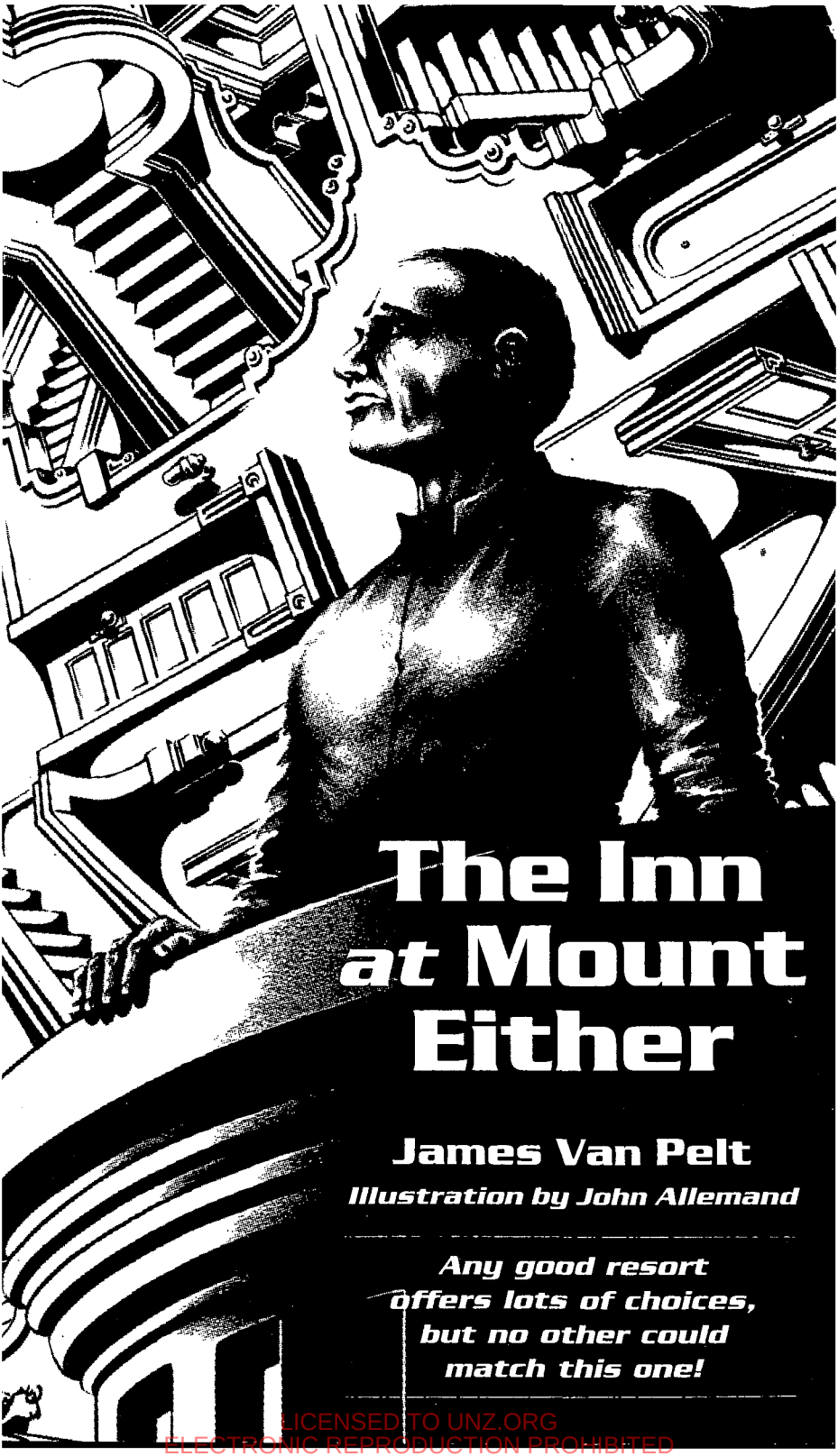
For more information, see our back cover and our cruise website

www.sciencefictioncruise.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO GMZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



The Inn at Mount Either

James Van Pelt

Illustration by John Allemand

Any good resort offers lots of choices, but no other could match this one!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

After a minute spent weighing a fear of appearing foolish against his anxiety, Dorian approached the concierge. Behind the glassy mahogany of the concierge's booth, through the floor to ceiling windows, the afternoon clouds swept toward them across the neighboring peaks. As always, the view was spectacular. The Sun cast long shadows through the valleys while the racing clouds caressed the mountaintops before swallowing them in gray, whale-like immensity, and when the clouds parted, the mountains would be the same but different, just a little, changed by their time in the clouds. That's why people always looked. Are the mountains the same, they seemed to say, or have they changed?

If Dorian stood at the window, he could peer down the mountain at the long, railed walkways that connected one section of the inn to the next. Curved glass covered some of the walkways so the guests could pass in comfort from the casinos to the restaurants, or from the workout facilities to the spas, or from the tennis courts to the pools, but others were open and guests could walk in the unencumbered mountain air, their hands sliding along guard rails with nothing but the thought of distance between them and the rocks in the sightless haze below.

Dorian cleared his throat. "I can't find my wife, Stephanie Wallace." His fingers rested on the polished wood.

Without raising his head from the clipboard he'd been studying, the concierge looked at him. "It's a big inn, sir. When did you see her last?" The man's eyebrows had a distinctively rakish look to them, turning up at the ends like a handlebar moustache, and his hair was silvery-gray.

"We were supposed to meet for lunch, but she didn't show up." Dorian glanced into the lobby, hoping that she might appear. Behind him, the room towered fifty feet to skylights. Opposite the window, the mountain's rocky side made another wall. Exotic plants that would never grow outside of the inn's protection filled every nook, spilling vegetation over the deep-toned stone.

The concierge put the clipboard on the booth. "Perhaps her plans changed, sir. There's much to do here at Mount Either."

Dorian gritted his teeth. "Yesterday's lunch! I've been looking for her since last night. Stephanie's not *late*. She's *gone*."

"It won't help for you to be short with me, sir. What is your room number?"

"4128."

The concierge tapped at a personal digital assistant that nestled in his palm. "This is your wife, sir?" A picture of a smiling blonde woman, glasses slid partway down her nose, peered back at Dorian from the screen.

"Yes." She'd worn her glasses on the airplane. Once they checked in, she switched to contacts.

"I show that she's still a guest."

Resisting an urge to throttle the man, Dorian said, "I know that. What I want is some help in finding her. Can't you ask the other employees to keep an eye out?"

"Of course, sir. But, as I said before, this is a big inn. Maybe she wants some privacy. Perhaps she's admiring one of our many gardens. She wouldn't be the first guest to spend a few uncounted hours sitting on a meditation vista. In fact, getting lost at the inn is a selling point. We advertise it. 'Lose yourself in the experience.' "

"It's not supposed to be literal!" snapped Dorian.

The concierge picked up the clipboard again. "I will alert the staff. You don't suppose she went through a transitionway unaccompanied, do you?"

Dorian felt himself blanching. "No,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of course not." But he remembered how she'd lingered yesterday morning in the Polynesian hallway.

"Guests are to be escorted through the shift zones."

"I'm sure she wouldn't do that."

The concierge sniffed. "We're very specific in our agreement when you signed in. The management will respond strongly to guests who ignore the rules."

Dorian turned away from the concierge. A new tram-load of tourists had arrived, pulling their suitcases behind them. Most were couples. Newlyweds, by the look, or retired folk. A pack of bellboys scurried to meet them, while a mellow-voiced recording intoned, "Welcome to the Inn at Mount Either. You are standing in the new lobby, two hundred and fifty feet above the historical first lobby, built on the site of where Mount Either's special properties were discovered. If you are interested in a guided visit to the old lobby, dial 19 on your room phone."

"If she did go . . ." said Dorian. A hand seemed to be grasping his throat. It was all he could do to croak out, ". . . unescorted?"

The concierge said, "It's a *big* inn, sir. We will do all we can to help, but we don't really count a guest as missing until forty-eight hours have passed."

Dorian didn't know what to say. He drummed his fingers on the counter. Some of the new arrivals were at the window, looking down. The glass leaned away from the mountain, and the lobby itself protruded like a shelf, so they had an unimpeded view of the two thousand foot drop and the rest of the inn on this side of the peak, clinging to the sheer face.

"I can't wait that long. I'm going to look for her myself."

"That is your privilege, sir," said the concierge. "I'm sure she's just around the corner. Nothing stays lost here forever."

The elevator to the Polynesian transition they had visited yesterday was out of order. Dorian looked both ways down the long, curving hall, but there wasn't another elevator. The inn's maps were almost impossible to read since the inn itself was aggressively three-dimensional, riddled with elevators, stairs, ramps, sloping halls, ladders, bridges, and multi-level rooms. They'd followed a guide to the Polynesian transition, but none were in sight now. Dorian went left, around the curved hall.

Finally, he reached a stairwell that spiraled down for fifty steps. He didn't recognize the hall it emptied into, but a distinctive arrow in blue and yellow pointed toward a transition. Yesterday, as they approached the zone, the wallpaper had changed from the art deco they'd grown used to, to a palm and beach motif. Following the guide, he'd held Stephanie's hand until they stepped through the transition's door and into a Polynesian mountainscape.

"You're lucky today, folks," said the guide. "I don't think I've ever seen it looking this good."

The Sun pouring through the open veranda spread heat like a warm flush on their skin. Stephanie's hand drifted from his own, and she walked to the platform's edge as if in a dream.

"Oh, Dorian," she'd said. Instead of the snow-capped mountains of the Inn at Mount Either, a series of rounded hills rose in front of them, covered with forest so thick that it was hard to imagine ground beneath it. A flock of long-necked birds wheeled below, skimming the treetops and crying out to one another. She'd stared into the distance, entranced, her blonde hair just brushing her shoulders, and for a moment he saw the young woman he'd married twenty years earlier, the jaunty athleticism in her posture, the grace in her wrists and hands.

A waiter in a flowered shirt offered

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

them drinks off a platter.

"Can you smell it?" Stephanie said, delighted. "It's the ocean."

And Dorian could smell salt and sand under the rich vegetable forest. Stephanie loved the ocean and all that was associated with it: the seals and birds and spiny creatures crawling in tidal pools, and the way the waves slid underneath her bare toes. Her passions were intense. She'd spend hours studying art or collecting children's literature or working with other people's kids. Once she'd gotten hypothermia in a mountain stream while sorting through rocks on her hands and knees. "I thought there might be quartz crystals," she'd said through the shivers. She laughed often.

Stephanie hadn't wanted to leave the overlook. The hotel guide finally had to insist. "My shift ended twenty minutes ago, ma'am. Perhaps you can come back another day if it's still here." Then he took them back through the hallway and into the inn they had left. "This was one of the original shift zones," he'd said as they walked back to the main lobby. "They found it third."

"How marvelous it must have been," Stephanie said. "I can imagine them climbing the mountain. Squeezing through a crevice, and there they were." She looked behind them.

Dorian rushed down the corridor. He remembered fewer doors in the hallway yesterday, and the carpet had been a different color. Closing his eyes for a second, he tried to picture the inn's structure. The elevator had only gone down a couple of floors, which was about the same distance the spiral stairs had taken him, but nothing looked the same. Maybe he was in a parallel passage. He passed another blue and yellow arrow. The decor changed from dark-polished woods and brass fixtures to natural pine siding. A long mural of a desert canyon rimmed with cactus covered one wall. Then the hall ended at a door, a rough-hewn, heavy-planked structure marked by a solid iron handle to open it instead of a doorknob.

It was a transitionway, but not the one from yesterday. Still, it was close. Maybe Stephanie had come down this path. The elevator might have been out of order for her too. Dorian took a deep breath and opened the door.

On the other side, a wooden bridge reached an open platform. Drooping ropes hung from thick posts that lined the bridge's side, serving as protection from the drop into the depths below. Dorian leaned on the rope at the platform's edge. The general shape of the mountains was the same, but no snow covered the peaks. The Sun glared, radiating off slick rock, dark with streaks of desert varnish. He shaded his eyes to look up the mountain. Wood structures covered most of the slope, all light-colored pine. For a moment nothing looked familiar, then he spotted the main lobby buttressed by tree-thick pylons jutting from the mountain.

A man wearing a cowboy hat and a leather-fringed shirt joined him at the edge. "First time to Mount Either?" he said.

"Yes," said Dorian, confused. "How could you tell?"

"Your duds. Not quite in the motif, pard." He smiled, a gold tooth flashing in the Sun, then glanced at his watch, a large-faced instrument ringed with turquoise. "You going to the barbeque? I'm going to find my wife and head that way. Gosh, I love the grub you get here." His leather boots clacked against the wood flooring as he headed to the stairs.

Dorian was alone on the platform again. "I'm looking for my wife too," he said. Overhead a lone bird circled. He thought, Is that a buzzard?

A tram like a large ore cart glided past the platform, heading down. Cowboy-hatted tourists sat at one end,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

while a pile of saddles and bridles filled the other. At the bottom of the ravine where the tram's cable ended at a tiny building, a dozen horses that seemed no larger than grains of rice from this distance milled about in a corral.

The set of stairs that gold-tooth had ascended looked like they led to the main lobby. Dorian took the steps two at a time. If Stephanie had come this way, she hadn't returned. Would she have realized right away that she was lost? Would she have gone to the lobby for directions? She could be there even now, maybe sipping a cool drink at one of the many nearby cafés.

But at the top of the stairs were three passages, and none of them looked like they headed up. Dorian paused. If he chose the wrong way, he could become lost himself. A bellboy in flannel shirt tucked into jeans, carrying a tray of dirty dishes on one hand above his shoulder, came out of one hallway.

"How do I get to the lobby?" said Dorian.

The bellboy transferred the heavy tray with practiced ease. His suntanned face crinkled into a weathered smile. "Right hallway until you come to the elevator. The button is marked."

Dorian nodded, then started forward.

"My right," said the bellboy as he descended the stairs.

In the lobby, Dorian took a moment to orient himself. It wasn't that this sage-scented lobby was completely different; it was the similarities that threw him off. It had the same tall window gazing out on the deserty-looking mountains, the same exposed rock making one wall, a familiar reception desk dominating the room's center, but all the materials were different: hand-hewed timbers replaced the slick chrome support beams, big-looped throw rugs covered the plank floor where before he'd walked on expensive carpet. What was most disorienting was the concierge, whose distinctive upward-flaring eyebrows and silver-gray hair waited for him at the reception desk as Dorian crossed the room.

"Thank goodness," said Dorian. "I wanted to find the Polynesian transition, but I ended up here instead."

"Excuse me, sir?" said the concierge. His expression was completely bland. No recognition at all.

"It's me, Dorian Wallace. I told you ten minutes ago that I was looking for my wife, Stephanie."

"I'm sorry, sir. You have me at a disadvantage."

"We talked. You said nothing stays lost forever."

The concierge shook his head. "Maybe I was thinking about something else when we chatted. What room did you say you were in?"

The situation was ludicrous. In the window behind the concierge, the Sun blasted the peaks. No snow. No smoothly curved walkways stretching from wing to wing. Just heavy rope and solid wood and thick iron cable strapping the structures to the mountain. It was like an 1860 version of Dodge City turned vertical. "I'm from the *real* Inn at Mount Either. I'm in one of its rooms."

The concierge's forehead wrinkled. "*This* is the real Inn at Mount Either, sir."

Dorian stepped back. The man looked similar, but the business suit Dorian remembered had been replaced with a leather jacket, and where the silk tie had hung before, a silver clasp held a black bolo. Something about his face was different too. More wrinkles,maybe? More silver in the hair? Suddenly Dorian was sure that they would have no record of his registration, and he realized he'd gone through a transition without a guide. What had the first concierge told him about management "responding

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

strongly" to guests who ignored the rules?

Keeping the panic out of his voice, Dorian said, "My fault. I mistook you for someone else." He forced a smile. "There are so many employees here."

Nodding, the concierge turned his attention to a stack of papers on the desk. "This is a big inn, sir. Perfectly understandable."

On the way out of the lobby, Dorian paused. Had he come up a short flight of stairs to enter, or had the hallway been on the same level? At the foot of the stairs a mineral gift shop offered its wares on wooden trays inside its door. He vaguely remembered passing something like that, but he'd been in a hurry. Had he?

On an impulse, he entered the shop. Rocks and crystals of all kinds filled the shelves. "I'm looking for my wife," he said to the man behind the counter. "She might have been in here yesterday." Dorian showed him a photo from his wallet.

The man hooked his thumbs in the top of his overalls and leaned to look at the picture. "Yep, I know her. She liked the amethyst. I figure she spent an hour hunting for a good specimen."

Dorian caught the edge of the counter to keep from falling. His legs had no strength. He looked at the crate overflowing with purple crystals.

"Didn't buy anything, though. I offered her iron pyrite—fool's gold. She said if she couldn't have the real thing, she couldn't be happy." The man smiled. "Besides, she said her husband sometimes buys her gifts, and she didn't want to spoil his fun."

"Which way did she go?"

"Didn't really notice. Down the hallway, I reckon."

Dorian dashed to the door, then looked the way the man had indicated, as if there might be a chance to see her still. But the hall was empty. He glanced up the stairs into the lobby. The concierge was talking to a couple of men wearing six-shooters and badges. Security? The concierge pointed toward Dorian.

"Thanks," he called to the mineral shop man.

"Nice lady. I hope you find her."

The elevator at the end of the hall was not the same one he'd ridden up, but he didn't want to talk to security, so he rode it down to the transition level he'd come from. When he stepped out, the doors closed, and the elevator returned to the lobby.

Were they really after him?

After a couple of confusing turns down hallways that didn't look the least bit familiar, Dorian stepped onto an open-air bridge that ended at a platform overlooking the canyon. He breathed easier. A quick dash down the transitionway and he'd be home, but the long cables that carried the tram he'd seen earlier to the ravine's bottom were next to a platform a hundred yards farther away. An updraft ruffled his hair and dried the sweat on his face instantly. Wrong platform. The problem was how could he get from the platform he was on to the one that he'd come from without retracing his steps?

He crossed the bridge back to the mountain, where three choices waited: the hallway he'd exited from, a short ramp to another hallway, and a set of stairs that at least headed toward the other platform. At the top of the stairs, a blue and yellow arrow pointed in the right direction.

But the hallway's transition theme was heavy stonework, like castle fortifications, and on the door's other side, towering spires and crenellated restraining walls lined the paths. He'd missed the transition back to where he'd started. A dozen flights of stairs, two ramps, and an elevator ride took him to another transition, clearly not the right one, but he needed to get back to the Inn at Mount Either he'd

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

come from. Passing through transitions without a guide, he thought ruefully, I'm probably racking up room charges of astronomical proportions.

The next transition felt vaguely Arabic. He ran into a fellow in a rush going through the door in the opposite direction.

"Sorry, my fault," said Dorian at the same time the other man said the same thing. He only had a moment to notice the fellow was wearing the same kind of pants and shirt he wore before they had dashed their separate ways.

The next transition had a rainforest look, but he recognized none of the birds that flew past the walkways. A blue and yellow arrow pointed down a hallway lined with jungle plants and short vines that dangled from the ceiling. He hurried past the closed doors until the hallway curved and the decor on the wall changed from matted vegetation to slick aluminum and recessed light fixtures. He pulled the door at the end of the transition zone open with relief.

The door closed behind him.

The lights were out.

He took a few steps into the darkness, then waited for his eyes to adjust. Slowly, the scene became clear. He choked back a gasp. Nothing separated him from the two thousand foot drop to the bottom of the canyon. For a heart-stopping moment, he felt suspended, as if at any second he would drop to the rocks in an unstoppable plunge, but he didn't fall. His hands out, he shuffled forward. The floor wasn't perfectly invisible. He could see now that a walkway leapt to an opaque platform before him, and to each side, no more than an arm reach away, nearly transparent walls enclosed him. It reminded him of an aquarium he'd visited once, where the visitors could walk in a glass tunnel right through the water. Sharks and rays swam above and below, and the illusion of being underwater was nearly perfect. Except the illusion here was that he floated in space. Dorian looked up. Stars glinted back at him with unblinking brilliance. He'd never seen a night sky so clean-edged. On the horizon, a quarter Moon cast a clear, cold light on the mountain peaks in the distance, and its silver hue glinted off the Inn at Mount Either's structures that wrapped tight around the mountain above him, but it wasn't the Mount Either he'd left. Glass and metal flowed smoothly around the contours, seamlessly leading from wall to window to walkway to elevator, and the dim light of the glass told him of the inn's life behind.

Afraid for his balance, Dorian moved back to the door like a man on ice. He tugged, but the handle didn't stir. A lighted sign in red appeared above: SORRY, TEMPORARILY OUT OF SERVICE.

After tightroping his way across the glass walkway, Dorian found himself in a vista room. A line of comfortably padded couches faced the window and the star-studded night outside. Illuminated by the partial Moon, people sat in most of the couches, staring silently at the view. He looked out. Moonlight bathed the nearest mountain in grays and blues. Shadows, like black swaths of velvet, outlined ridges and rocks and filled crevices. Dorian took an empty couch, and settled in its deep embrace. Yesterday, when Stephanie missed lunch, he'd sat in the restaurant for an extra hour, and he knew something was wrong. He told himself that she must have forgotten, but that wasn't like her. Using the inn's maps as best he could—the inn's structure was complicated—he'd searched the gyms and shops, the salons and museums, hour by hour, panic building.

He realized that this was the first time he'd rested in the last twenty-four hours. Dorian closed his eyes, just for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a minute, he thought.

He dreamed of Stephanie. They were in a boat crossing a broad lake. Behind them he could make out a line of trees and a distant dock, but the other shore was lost in mist. Water slapped at the bow, and the air smelled of fish and wet wood. "You're so far away," she said. Dorian wanted to weep. "I know," he said. "I know, but I'm trying to find you." He was dreaming, and he could feel the couch he was sitting in, and he could imagine the people sitting around him, staring at the night-lit mountain, but he also felt the hard wooden bench and the boat's gentle motion. "Where are you, Stephanie?" In the dream, she laughed the way she always laughed, an honest burst of humor that animated her face and eyes. She said, "No, I mean you're so far away in the boat." Dorian braced himself, lifted his feet over the seat in between them, then slid forward. Their knees touched. Stephanie placed her hands palms up on her knees. Leaning, Dorian covered them with his own.

"Your hands are so warm," she said.

Dorian kept still, his fingers resting on her wrists, her pulse beating beneath them.

Stephanie looked upon the water, the long line of ripples moving past them, breathing quietly. She said, "I could float here forever. I don't have to be going anywhere." The boat rocked, and it was like the lake stroking them. She met his gaze. "If you're with me."

A voice said, "It's beginning."

Dorian opened his eyes, and Stephanie disappeared. For a moment, he imagined the couch moved, as if the floor was the surface of a black lake, but that feeling faded, leaving him with the memory of her pulse in his fingertips and the way her lips parted when she laughed so vivid that he wondered for a second if she'd actually been there before him.

"It's beginning," an elderly woman in the couch next to him said again. Her arms looked frail, but her voice was firm.

"What?" said Dorian.

"Shhh!" she said, and hunched forward, all her attention directed out the window.

At first Dorian thought the mountain was catching fire. A flicker of red glinted from the middle of a cliff. Then it spread over the length of the rock, a brilliant, deep red like an electric ruby.

"My God," someone said. Someone else sighed.

The red spread to neighboring cliffs, but now the center glimmered with yellow, and a few seconds later almost all the red had been replaced by the yellow glow.

Leaning toward the woman next to him, Dorian said, "What is that?"

"Just spectacular," she said.

"No, what is it?"

She didn't look at him. "Refracted moonlight on the crystals. It's only this good a couple times a year, and only from this spot. No other mountain in the world does this, and if this room were any other place, we wouldn't see it. The Moon has to be in the right phase."

Now the yellow light enveloped the entire mountain, except at the bottom, which had acquired a purple tint that crawled up the cliffs until the yellow vanished. Purple was Stephanie's color, the color of amethyst.

"There were clouds in the spring. We missed it," the old woman said, then she started crying.

Dorian sat with his hands in his lap, unsure of what to do.

"My husband was with me then. We'd never been here before." She wiped her tears before looking at him for the first time. Her eyes reflected the purple from the mountain. "It's just a superstition, I know, but they say if you see the lights with someone

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

you love, they will be with you forever."

Gradually the purple vanished. The edges of a few of the larger rock faces glinted green for a moment. Finally, the mountain looked like it had when he entered the room. People rose from the couches and headed for the exits. Many were couples holding hands. The old woman didn't move. She'd wrapped her arms across her chest, as if she were hugging herself. Her knuckles were large and arthritic. She said, "I hope you come back when it isn't cloudy. I hope you come back with someone you love."

A chill swept the back of Dorian's head. "I'm looking for her."

She shrank a little deeper into her couch. "Not me. I'm waiting."

At the other end of the room, a bellboy bent to talk to a young couple still sitting. They smiled back at him, then each showed him a small piece of plastic. In the room, lit only by reflected moonlight, Dorian couldn't tell what the plastic was. The bellboy moved to the next lodger, who also showed him a plastic card. There were only a few people between Dorian and the bellboy when Dorian recognized that they were displaying their room keys. His own key didn't look like the ones they showed.

"What's the problem?" said a woman as she put her key back in her pocket.

"Nothing of concern, ma'am. A security issue—misplaced guest."

Dorian slipped out of the room and into a passageway. Half of the wall was transparent, like the entrance bridge near the transition, except the ceiling glowed to provide dim light. He followed the gentle curve and had walked for several minutes when an acetylene-bright brilliance flushed the hall into overexposed surfaces and shadows. He blinked against the glare before shading his eyes. From the mountain's base, the light grew more intense, until, soundlessly, a rocket, balanced on a flaming pillar, rose past him and streaked into the night.

He heard the people in the hall before he saw them, but short of turning back the way he came, there was no way to avoid them. They laughed and joked loudly. At first Dorian thought they must be going to a masquerade. All wore bulky suits and carried helmets under their arms.

"I've never been outside," said a young man with glasses and a moustache.

"Just don't sit on something sharp," said his motherly looking companion. "And be sure to listen to the safety procedures. Depressurization is nothing to fool around with."

They were too preoccupied to acknowledge Dorian as they clumped past.

When they vanished around the curve, Dorian stopped, put his hand on the glass wall, and looked out again. The stars never had seemed so sharp and unblinking, and, he noticed, there was no vegetation he could see. None at all. The landscape was as desolate and bare as the—he paused as he made the comparison—as the Moon, but there was the Moon, nearly resting on the horizon. He shivered. Every transition at Mount Either took the guests to an exotic location, but it had never occurred to him to wonder *how* exotic. This is Earth, he thought, isn't it? Clearly Earth! But what happened to it?

The mountains weren't just dead. They were swept clean and bare, like a planet's skeleton—solid, smooth, dry, and with no ability to shrug themselves into life. He pressed his forehead against the glass and shut his eyes. Where was Stephanie? She'd be taking pictures. She'd be stopping at every new view, her head cocked a little to the side, as if she were measuring the world for a painting. She'd tell him about what she'd found, and if he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was quiet for too long, she'd say, "What are you thinking?" and genuinely want to know.

Dorian pushed away from the glass and continued walking, slowly at first, but soon with a purposeful stride. At a junction he chose the hallway whose stairs led toward the lobby. An elevator took him up, and when the doors opened, a bellboy stood on the other side. The bellboy, wearing a silk vest that sported a shiny name tag that read, NED, CAN I HELP?, held a personal digital assistant in one hand with Dorian's face on the screen.

"I'm Dorian Wallace."

The bellboy checked the image in his hand. "Heavens, you *are* Dorian Wallace! Thank goodness, sir. Your wife has been worried sick. Everyone has been looking for you."

Dorian's hand flew to his heart, and he clenched his shirt in a fist. "You know where Stephanie is?"

Two short hallways later, they were in the lobby, the same long window that seemed so familiar looking out on the moonlit mountains. Dorian's pulse pounded and his face felt hot. The same cliff face covered with plants made the back wall, and, Dorian thought, the same concierge, his handlebar eyebrows pointing upwards, waited at the reception desk. But he wasn't the same. Similar, but not the same. Shorter, perhaps? A little broader in the shoulders?

Stephanie stepped out from behind the concierge.

Wordlessly, they embraced. Dorian held her tightly, his cheek pressing against the side of her head. She trembled in his arms. For a moment, all his senses centered on her, on the feel of her breathing against him, of her fingers on his back. The smell of her skin. The texture of her blouse.

For a moment, all was perfect.

But she stiffened—he could feel it in her muscles—and she pushed away.

Stephanie looked at him, her hands still holding his. Dorian studied her. Where Stephanie's hair had been curled, it now hung straight. Where her eyes had been blue with tiny white spokes, they were now blue with tinges of green.

"Who are you?" the woman asked.

"I'm Dorian. Who are you?" He released her hands, and they hung in place where he'd left them. She took a single step back.

"Oh, no," said the concierge. "This is distressing."

"Where's my husband?" the woman said. "Where's my Dorian?"

The concierge took a position between them. "The inn is not at fault here. It doesn't happen this way. If you'll come with me, sir." He took Dorian by the elbow and walked away from the reception desk. "How many transitions did you go through?" he whispered harshly.

"I . . . maybe . . ."

"You went through at least two, didn't you?"

Dorian stopped, pulled his arm away from the concierge. "The damn inn is so confusing that anybody can get lost. Give me a guide, and I'll be happy to go back to where I belong."

"It's a *big* inn. How many?" The concierge wasn't smiling, and he didn't look friendly in the least.

"What does it matter? Five or six, I think."

The concierge blanched. "You don't understand, sir. There are nine transition zones."

"So?"

"When you go through one, you come out at a different Inn at Mount Either. Each inn has nine transition zones, too. Nine different ones. When you go through two transitions, there are eighty-one different inns you might have come from. If you went through five. . ." He paused, closing his eyes for a second. They popped open. "You could have come from any one of 59,049 realities. If you went through

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

six, we'd have over a half million possibilities." He grabbed Dorian's elbow again with urgency. "Where did you come from to get here?"

Dorian winced and found himself half walking and half trotting. "A jungle, I think. Ouch! What's the hurry?"

They reached an elevator. The concierge punched the button. Then he punched it again. "Zone drift. When you go through a zone, the door you came from is the way back for two or three hours, but if you wait too long, the place you came from isn't there anymore. It'll be another version of the inn. It might even be a really, really close version of the one you came from, but it won't be the same one. If you didn't dawdle in any of the zones, though, you should be okay."

Dorian glanced at his watch. When had he gone through the first transition?

The elevator door opened. "Jungle?" asked the concierge.

Dorian nodded. "Another version? Like a parallel world?"

The concierge grunted as the elevator started down. "Um, sort of. We prefer to call them non-convergent. There's a lot of variation."

"But the door to the jungle is out of order. I would have gone back through it on my own."

"We locked all the doors when we realized a guest was making unguided transitions."

Dorian followed the concierge who made turns down hallways and chose stairwells with practiced confidence. They crossed the transparent bridge, but now the door was lit and they passed into the rainforest transition Dorian remembered.

"Okay, how did you get here?" The concierge reached behind a curtain of vines hanging next to the wall, and pulled a phone from a hatch.

"From a kind of a desert world, I think."

The concierge's forehead furrowed in frustration.

"I'm sure it was desert, like the Arabian Nights."

He said something into the phone, then listened to the reply.

They hurried around a hallway's long curve. Dorian hadn't looked at the scenery the first time through, but now he noticed solid vegetable weaves that made the walls, and the sweaty smell of wet wood and dripping leaves.

"How come you're here? I mean, you're just like the concierge from the inn that I came from."

They trotted up a flight of stairs, crossed a dizzying walkway over a ravine, and entered a small court circled with open booths. Guests sat on stools drinking from tall bamboo cups or coconuts with straws stuck in them. An elevator rendition of jungle music played softly in the background.

"I'm everywhere," said the concierge. "So's your wife. So are you. That's the problem. You are lost, and so are about a zillion non-convergent versions of you, wandering about the inn where they don't belong. Of course, there are a lot of you who didn't get lost, either. The worlds aren't parallel. At least your wife had the wit to come back through the same doors she exited."

"She has a pretty good sense of direction." Dorian shook his head. "I didn't come this way. I don't remember this."

"Shortcuts. Your clock is ticking. With any luck, another version of me is hustling another version of you, the right one, back to my lobby where that woman you met is waiting. How long has it been since you went through the first transition?"

"I'm sure it hasn't been two hours yet." When had he started looking?

"Good. We should make it without any trouble."

Finally they entered a transition with a Western theme, rough textured

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pine walls and the smell of cactus.

"This is the first zone I entered."

The concierge sighed and smiled for the first time since Dorian talked to him in the lobby. "Fifteen minutes back for me. Piece of cake. From here, all I need is your room key."

Looking at the key, the concierge plucked another phone from a hidden niche. He read a string of numbers into the mouthpiece.

Minutes later, they stood at the transition back to the inn Dorian had come from. The concierge put out his hand. "I'm glad that I could help you, sir. A bellboy on the other side will escort you to the lobby, where I'm sure your wife will be glad to see you." He paused. "We've always said that a guest should lose himself in the experience."

Dorian grimaced. "I didn't think that was funny the first time I heard it."

When he entered the lobby, he spotted Stephanie right away. Her back was to him, but her blonde hair, lightly curled at the end, barely touching her shoulders, caught a ray of Sun through the window and practically glowed. He remembered that once he'd told her that he liked looking for her in crowded places. "I just tell myself that I'm looking for the prettiest woman in the building, and when I find you, I'm done."

She turned, but her smile was tentative.

"Dorian? The real Dorian?"

He tried to speak. Nothing came out, and his eyes blurred.

She was in his arms. Dorian held her tightly, afraid to let go. She buried her face in his neck, and he could feel her tears on his skin. He thought about the first time he'd held her, a night when they'd parked on a cliff's edge with the city's lights spread out in the valley below, when he knew that they would be together forever. Her breathing had synchronized with his. Her shoulder fit under his arm as if the two of them had been sculpted at the same time to go together. Dorian shook with sobs, and she held him. Her crying matched his own.

A long time later, it seemed, when they'd dried their faces, made their apologies to the concierge, who just seemed happy that they were where they belonged again, and all thoughts of further repercussions for going through transitions were forgotten, they walked toward their room. Stephanie's arm wrapped around Dorian's waist, and he kept a hand on her shoulder, as if afraid that she might slip away again.

"Where were you at lunch?" Dorian asked. "I waited for an hour."

Stephanie's inhalation still sounded shaky. "I was in the wrong restaurant. When you didn't show up, I went back to the room. But you didn't come, so I started looking for you. That's when I went through the transitions. Dorian, it was all so beautiful. I lost track of time." She frowned. "They brought a man who looked like you, but he wasn't you. I've never been so frightened before."

"I know."

Dorian pulled her even tighter. It didn't matter why they'd been apart, as long as they were no longer lost. He loved the feel of her walking beside him. He loved that he could match strides with her so they wouldn't jar each other. Twenty years of marriage, and he loved that she still surprised him with her laugh.

They reached the room. Dorian slid his plastic key into the lock, but it didn't work.

"Let me," Stephanie said. The door recognized her key and let them in. "I'm so tired, I could sleep for a week." She leaned against the wall, looking at him.

"Me too. I haven't slept since yesterday."

She headed for the bed, and Dorian

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was glad because she couldn't see the change in expression on his face. He hadn't slept since yesterday, he'd said, but that wasn't true. He'd slept in the Moon room, where he'd dreamed of Stephanie. "You're so far away," she'd said in the dream.

How long had he slept?

Stephanie pulled back the sheets. Dorian watched. Was that *exactly* the way Stephanie unmade the bed? Didn't she always wash her face first?

She walked past him into the bathroom. Her fingers touched his as she rounded the corner. "You look like you swallowed something gross."

The sink turned on. Water splashed. Dorian backed up to the edge of the bed, but he didn't sit down. Stephanie had left the door open. She always closed the bathroom door, even to brush her teeth, even to blow her nose. Her shadow moved on the carpet in the light of the open door.

How long had he slept?

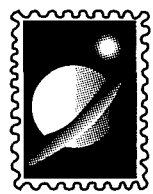
Much, much later that night, long after the woman had fallen asleep, Dorian lay with his eyes wide open, listening. Straining. What did his wife sound like when she breathed? Could this possibly be her beside him, and what if it wasn't? How long would it be before she noticed? A year? Ten years? Never?

Or could she wake up right now and know? Would she lever herself up on one elbow and look at him in the dark? "You're not Dorian," she'd say. Her breath wouldn't smell like Stephanie's. Her voice wouldn't be Stephanie's. Not quite. Not exact. Not real.

She stirred slightly. Every muscle in Dorian's body tensed, but she didn't wake up.

Not then. ■

CUSTOMER SERVICE
OR SUBSCRIBER ASSISTANCE



Please direct all changes of address and subscription questions to:

ANALOG SCIENCE FICTION
6 Prowitt Street,
Norwalk, CT 06855

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Outlawing" Wormholes and Warp Drives

I have written a number of columns in this magazine about wormholes, warp drives, and other constructs of Einstein's general relativity (GR) that appear to offer a good physics foundation for faster-than-light travel and even for travel back in time. All of these GR constructs come from a particular non-standard way of using Einstein's theory, an approach that might be described as "metric engineering." Instead of considering a particular arrangement of mass and energy and asking how space would be warped and what effects would be produced by such an arrangement, in metric engineering we specify how we *want* space to be warped in order to produce these effects, and then ask what arrangement of mass and energy would be required to accomplish this. The usual outcome of this kind of GR calculation is that a certain quantity of *negative* mass-energy would be needed. For example, to stabilize a wormhole, a significant quantity of negative mass-energy is needed near the wormhole's throat.

While there are no well-established physical laws that prevent the existence of negative mass or energy, in looking around in our corner of the universe we have not seen any significant amount of either. I was co-author of a physics paper (see references) suggesting how star-scale negative mass objects (actually, wormhole mouths) might be searched for in astronomical measurements, but so far no objects with the signature our paper suggested have been observed.

Our best present route to negative energy lies in the space between two closely spaced conducting parallel plates. There, the Casimir Effect (see AV43: "FTL Photons", *Analog*, mid-December 1990) requires a net negative energy in the gap. However, the overall energy of a Casimir plate system must be positive, so the local negative energy is bought at the expense of positive energy elsewhere. Further, the quantity of negative energy is tiny, so that any effects for which it is responsible are very difficult to observe. In a previous AV column, (AV53: "Squeezing the Vacuum", *Analog*, July 1992) we also discussed the observation that the "squeezing" of space in a strong and changing gravitational field (e.g., near the event horizon of a back hole) creates a negative energy region. These phenomena represents what mathematicians call an "existence theorem," demonstrating that negative energy can and does exist, but not whether it might be useful for metric engineering. They also represent intrusions of quantum mechanics into the "classical" physics of Newton and Maxwell, as extended by Einstein.

Many of the theoretical physicists who work with general relativity have fundamental objections to the very idea of wormholes and warp drives, which they consider to be "unphysical." Some of them have decided that one should place a "picket fence" around those solutions of Einstein's equations that are considered to be physically reasonable, and to place exotica like stable transversable wormholes, faster-than-light warp drives, and time machines in the forbidden area

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

outside the fence, excluded because it is presumed that Nature does not allow such objects. They are, in effect, attempting to discover new laws of physics that would place restrictions on GR solutions.

Their first attempt at building such a fence was called the Weak Energy Condition (WEC). In essence, the WEC assumes that negative energy is the source of "problems" with GR and requires that for all observers, the local energy in all space-time locations must be greater than or equal to zero. In other words, if any possible observer would see a negative energy, that solution of Einstein's equations is excluded by the WEC. A less restrictive variant of the WEC is the Average Weak Energy Condition (AWEC), which requires that when time-averaged along some arbitrary world-line through all time, the net energy must be greater than or equal to zero, so that any time period when the energy is negative must be compensated by a period of positive energy.

The WEC, AWEC, and the other similar energy rules are "made-up" Laws of Nature and are *not* derivable from general relativity. They appear to be obeyed for observations of all known forms of matter and energy that do not fall within the domain of quantum mechanics. However, even for simple situations involving quantum phenomena (for example, the Casimir Effect, squeezed vacuum, or the evaporation of black holes), the WEC and AWEC are violated.

For fence-building theorists, the dismaying failure of these energy conditions raises the question of why nature seems to need negative energy in certain circumstances. It is clear that it has something to do with quantum mechanics. For example, the time-energy version of Heisenberg's uncertainty principle requires that if a time interval is made sufficiently short, the fluctuations in energy must become very large. If the energy is not allowed to fluctuate to negative values, the Heisenberg uncertainty relation doesn't work. Similarly, the Hawking evaporation of black holes, which is a quantum-mechanics-based process, involves a black hole "eating" a negative-energy photon (or other particle) while its positive-energy twin escapes into the space outside the black hole. This process would not work and its connection to thermodynamics would fail if negative energy were forbidden. These clues, suggesting a connection between GR and quantum mechanics, have attracted considerable theoretical interest because there is presently no physics formalism that connects the two theories. Up to now, all attempts to construct such a theory of quantum gravity have either failed completely or are in such a primitive state (e.g., string theory) that they cannot make useful predictions of physical observables.

Therefore, the fence-building theorists have turned to quantum field theory, the standard model of relativistic quantum mechanics, to search for rules governing the existence of negative energy. This work, pioneered in 1978 by Laurence H. Ford, has led to what are called "quantum inequalities" (QI). Basically, one chooses a "sampling function,"—some bell-shaped curve with unit area and width **T**—which specifies a particular restricted region of time. This function is then used to average the energy per unit volume of some quantum field within the time-sampling envelope.

This calculation, which has been performed for a number of fields and sampling functions (Gaussians, Lorentzians, triangles, etc.) leads to the conclusion that the energy per unit volume of an field described by quantum field theory can be no more negative than $[-Kh/(2\pi c^3 T^4)]$, where **h** is Planck's constant, **c** is the speed of light, and **K** is some constant much less than 1 that depends on which sampling function is used.

Physically, the QI say that the larger the quantity of negative energy existing in time interval **T**, the smaller **T** must be. An observer cannot see large quantities of negative energy that last for a long time.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A burst of negative energy must be followed in a very short time by an even larger burst of positive energy. One can think of the negative energy as a "loan" charged to Heisenberg's credit card that must be repaid within a time that becomes shorter as the amount of energy "borrowed" becomes larger. And the times involved are very short indeed.

The QI are bad news for would-be practitioners of metric engineering. Taken at face value, the QI say that stable wormholes may be impossible and that a warp drive might, at best, exist for too short a time to go anywhere. While a wormhole might wink into existence during the short time that the negative energy is present, it would wink out of existence again before any matter could pass through it. It appears that within the QI conditions, when negative energy is created, it is either too small in magnitude or too brief in duration to do anything interesting.

Is there any escape from these pessimistic conclusions? Perhaps. Quantum field theory cannot be trusted in its application to the field-energy situations envisioned by the QI calculations because it attributes far too much positive energy to space-time itself. The density of "dark energy" deduced from the observations of astronomers investigating Type Ia supernovas is about 6.7×10^{-10} joules per cubic meter. The same quantity, as calculated by quantum field theory is about 10^{40} joules per cubic meter. Thus, quantum field theory missed the mark by about 50 orders of magnitude. Therefore, until quantum field theory can accurately predict the energy content of the vacuum, the restrictions that it places on metric engineering cannot be taken too seriously.

Another possible loophole around the QI restrictions comes from alternatives to standard general relativity. In particular, there have been some "elaborations" of general relativity called R^m gravity theories that attempt to make small changes in the standard theory that are at the same time consistent with all existing observations and also account for the observed accelerated expansion of the universe without the need to invoke dark energy. There has been a recent study by two Canadian theorists of such R^m theories as they apply to the stability of wormholes. Their conclusion is that for such theories, stable wormholes can exist that do not require negative energy and that satisfy the WEC.

Thus, as we said during the excruciating election year just passed, all the votes have not yet been counted. It may be that a proper theory of quantum gravity, when we get one, might rule out wormholes and warp drives, but we do not have such a theory at the moment. The theories we do have seem to point in several different directions. As the theorists like to say when they are writing funding proposals, more work is needed in this important area of theoretical physics. ■

AV Columns Online: Electronic reprints of over 120 "The Alternate View" columns by John G. Cramer, previously published in *Analog*, are available online at: http://www.npl.washington.edu/av. Electronic preprints of papers listed below are available at: http://www.arxiv.org.

References:

Wormholes and Negative Mass

Lorentzian Wormholes, Matt Visser, AIP Press, Woodbury, NY (1996).

"Some Thoughts on Energy Conditions and Wormholes", Thomas A. Roman, electronic preprint gr-qc/0409090, September 23, 2004.

Wormholes and R^m Gravity

"Wormhole Throats in R^m Gravity", N. Furey and A. DeBenedictis, electronic preprint gr-qc/0410090088, November 22, 2004.

Astronomical Search for Negative Mass

J. G. Cramer, R. L. Forward, M. S. Morris, M. Visser, G. Benford, and G. A. Landis, Physical Review D51 3117-3120 (1995).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

6 Issues, Just $10.97!

Subscribe today and get 6 intriguing mystery magazines delivered to your door at half-off the regular newsstand price!

Ellery Queen's Mystery Magazine leads the genre in critical acclaim with more than 50 major awards and nominations just since 1990!

Every issue delivers suspenseful stories from the honor roll of mystery and crime fiction's great writers PLUS mystery limericks, poems and cartoons, book reviews, and an occasional mystery crossword!

Order Today and Save 50%!

To charge your order to MC or Visa, call
TOLL-FREE 1-800-220-7443
(9am-5pm EST) Orders only, please!

BY MAIL

Ellery Queen, Suite S, 6 Prowitt St.
Norwalk, CT 06855-1220

Please allow 4 to 6 weeks for delivery of your first issue. Outside U.S.A.: Add $5 per year for shipping and handling. All orders must be paid in U.S. funds. *We publish double issues twice a year which count as four issues toward your subscription. Offer expires **9/30/06.**

35C-NZQDLL

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Probability Zero

Much Ado About Newton

Carl Frederick

For over a quarter century, Paul Ratchet had appeared in court. Every year on his birthday, the high school physics teacher from Newton, Massachusetts had sued to have Isaac Newton's three laws of motion decreed not only laws of physics, but also the law of the land—or at least of the 18.1 square miles of the land comprising Newton, Mass. These birthday suits, insubstantial as they were, never even made it before a judge. But all that changed in the year 2014, when Judge Zeno Weevil agreed to hear the case.

Paul had heard that the judge, considered brilliant in his time, had become querulous during his long tenure on the bench. And though impatient and hard of hearing, Zeno was reported to possess a conciliatory nature and tended to rule favorably on motions before him.

Paul, despite having no legal training, always pleaded his own case—and this day, with the gallery filled with Paul's friends and the occasional local reporter, he began his argument.

"I wish to discuss the laws of motion." Paul paced back and forth before the bench.

"Eh?" said Judge Zeno, "the lore of Martians?" He chuckled. "I'm not sure this is the proper jurisdiction to discuss science fiction." He shrugged. "Then again, Isaac Asimov did live here in Newton."

"No." Paul shook his head. "Isaac *Newton*. He lived in Cambridge."

"Ah, Cambridge," said Zeno. "Just down the road from here. I'll allow then, that this is the proper jurisdiction."

Paul rolled his eyes. "I'll start with the third law," he said. "It states that for every action—"

"Yes, yes," said the judge. "For every action, there's a counter-suit. The court knows all this. Get on with it, please."

"Um. Fine." Paul stopped pacing and stood directly in front of the bench. "The first law, then. A body in motion—"

"You mean a moving corpse?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Paul pressed on. "A body in uniform motion—"

"Are you saying the corpse is wearing a uniform?"

". . . remains—"

"What about the remains?"

"A body in uniform motion remains in a state of uniform motion," said Paul, "except insofar as it doesn't. The first law of motion."

"The first law of Moses?" said Zeno. "This is not an ecclesiastical court, you know."

"Law of motion!"

"No," said the judge. "The law has no emotion. Here we're concerned with facts."

"Please, your honor," said Paul through clenched teeth. "This isn't about Newton's lawn of motion, or Newton's law of moonshine, or his maw of lotion, or even his law of motion sickness." Paul took a deep breath and spoke as clearly as he could. "This, your honor, is about the state of motion."

"As well as about the State of Mass," said Zeno.

"Well, yes," said Paul. "The mass of an object is an issue as well, but it's immaterial to my argument."

Zeno laughed. "Immaterial? Matter is not immaterial."

"What?" Paul began to feel that the discussion was escalating out of his control.

"I allow that the state of matter is important," said Judge Zeno. "Although I'm not sure it's a matter of state—a place to exercise judicial power."

"What?" said Paul, again, aware for the first time that the judge was not an idiot, and indeed had probably been toying with him from the beginning.

"Yes, Watt," said Zeno. "A unit of power—albeit not judicial power. A newton meter per second. I've studied physics. As an undergraduate, I majored in it."

"You did?" Paul, standing wide-eyed, couldn't think of anything else to say.

Judge Zeno picked up a folder from the bench and tapped it. "I've studied your submission to this court, and I'm sympathetic to your cause." He stood. "Now give me a half hour or so to write my opinion."

Everyone in the courtroom rose and remained standing while the judge went off to his chambers.

In the gallery while waiting for the judge to return, Paul's friends rushed about, excitedly. They patted each other on the back and gave animated interviews to the reporters, for everyone was sure Paul had won his case.

But, paradoxically, Zeno denied the motion—and everything stopped.■

READERS: If you are having problems finding *Analog Science Fiction and Fact* at your favorite retailer, we want to help. First let the store manager know that you want the store to carry *Analog*. Then send us a letter or postcard telling us the full name and address of the store (with street name and number, if possible). Write to us at: Analog Science Fiction, Dept. NS, 6 Prowitt St., Norwalk, CT 06855-1220. Thank you!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TAINTED

Jerry Oltion

Each of us knows only what we've learned from experience—no matter how long it takes to "grow up."

The creature gave itself dozens of names over the course of its life. "Moving Matter" was the first, and probably the most descriptive, but not long after it became self-aware it realized that it wasn't the only moving matter in its world, so it needed something more to differentiate it from the rest. After much thought it realized that it was the only matter that considered things like names—or anything else, so far as it could tell—so it called itself "Smart." That name sufficed for a long time, but as Smart grew smarter, it also began to realize how much it didn't know, and the name seemed more of a mockery than a comfort.

It tried "Grower," which it loved for its double meaning as well as its simplicity, but when Grower's world entered an ice age and sheer size became a liability, that name was no longer appropriate on the physical level. It tried "Survivor" for a time, but that seemed to be tempting fate. It coined a special word that meant "Green multi-limbed being with eyes at the ends of some of its limbs and little manipulating digits at the ends of others," but there were several other creatures on its planet that looked like that, too, so it was back to adding "smart" to the name to differentiate itself, which defeated the purpose.

As it learned more about itself and its environment, it began to wonder why it was the only self-aware being in its world. There didn't seem to be any good answer, other than the simple truth that that was the way things were. In the course of its life, which had already spanned millennia, it had traversed its entire planet several times and found no others like it. Even the most similar creatures lacked the crucial spark that let them ponder their own existence, or if they had it, then they lacked the ability to express it.

It called itself "Alone" for a short time thereafter, but something about that name disturbed it, and it quickly

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

switched to "Indifferent," followed even more quickly by "Liar" and then, finally, "Confused."

Its search for meaning led it to discoveries of a different sort: the existence of physical laws that described *how* things worked, if not *why*. It slowly puzzled out the workings of fire, and how fire could transform one thing into another. It called itself "Builder," a name that it kept for millennia while it pushed the boundaries of what matter and energy could do under the guidance of a questing mind.

That was an exhilarating time. The excitement of learning and the satisfaction of creating something with that knowledge were nearly enough, but its creations never quite succeeded in eliminating its loneliness. In fact, one in particular made the loneliness orders of magnitude worse.

When Builder's telescopes revealed that the stars were each a sun like its own, many with planets like the one that had given it birth, it felt a brief moment of rapture, for surely some of those planets would harbor intelligent life; but as it built successively bigger and bigger telescopes to look deeper and deeper into the cosmos, it grew frustrated and worried. There was no sign of life at all, much less intelligence.

The idea that Builder could be the only intelligent being in the universe seemed somehow intolerable. What if it were to die? Sometimes one of the other creatures in its world would suffer an accident from which it couldn't recover, or would find itself stranded in a shadowy ravine, and the chemical reactions that sustained it would drop below the crucial threshold for self-perpetuation. When Builder discovered such a one, it would try to repair the creature or haul it out into the light again, but often too much time had passed and the creature's chemical makeup had degenerated too far for it to function anymore. What if that were to happen to Builder? Would the entire universe then be unthinking?

Even if Builder could avoid that fate, its sun would eventually swell up and bake its world to a dry cinder. Builder might be able to survive that if it prepared well in advance, but it couldn't survive the inevitable stellar collapse that would follow. The burned-out core of the sun wouldn't provide enough heat to keep Builder's molecules moving.

Builder would have to move to a younger star. It had millions of years—perhaps billions—in which to do that, but the distances involved were staggeringly huge. It might take billions of years to accomplish such a thing.

Best, then, to start soon. Builder threw itself into the project, studying every type of energy source and every type of transport it could imagine, and after more millennia than it bothered to count, it eventually built a spacecraft capable of carrying itself through the vastness between stars.

It searched the other planets in its own solar system first, just in case it had failed to find something in its telescopic and robotic surveys, but it soon confirmed that nothing else lived there. Its sun was still young enough to be safe for longer than Builder had been alive, but escaping the sun's expansion was only part of the reason for building the starship. Builder wanted to expand its search, to examine every planet of every star in the sky if necessary, in order to find another being like itself. It renamed itself for the first time in millennia, and "Traveler" set out for the stars.

Its first interstellar journey was nearly its last. It had already lived for eons, but it soon learned the difference between objective and subjective time. On a planet, there were infinite diversions to speed the passage of time, but on a starship, there were only the products of its own mind, and Traveler realized all too soon how meager that mind's depths were.

Sleep wasn't so much a discovery as a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

necessity. Traveler checked its calculations until they were burned into its very being, and it could find no fault in them, but in the end, it required the greatest act of faith in its life to voluntarily lower its chemical rate of reaction below the threshold for consciousness, trusting the machinery it had built to revive it when the ship arrived at its target star. Traveler wondered if the universe's single point of consciousness was about to annihilate itself by accident in the very quest to preserve itself, and whether the universe would persist afterward without Traveler there to experience it.

Traveler would find out one way or the other. Or not, if it never awakened.

It switched on the rejuvenator. It stopped its energy intake. It renamed itself "Idiot" and fed greedily beneath the artificial sun at the core of its starship, then renamed itself "Coward" and switched off the sun again. Consciousness took a long time to fade, but eventually it did.

It awoke to pain and hunger, but both were brief. When it had soaked in enough energy and repaired the damage time had done to its body, it rose and looked out the window to see another sun shining brightly amid the darkness of space, and several bright planets arrayed around it.

The new sun's energy tasted different, but it was nourishing. Coward, now "Sleeper," soaked it in while it searched the planets for life, but found nothing.

This new star was much younger than the one that Sleeper had evolved under, but Sleeper's success in traveling between them encouraged another attempt. Sleeper aimed for another star that might possibly have nurtured life, set the autopilot, and rendered itself unconscious again.

Success was a long time coming. Sleeper had renamed itself "Seeker" and "Dreamer" and "Weary" and "Impatient" and finally "Determined" before it came to a solar system with a planet that harbored life, and when it examined that life it found only the simplest of organisms eking out their existence by breaking down bare rock for energy. There was nothing sapient, nothing even sentient so far as it could tell.

Still, it was life. Proof positive that Determined wasn't the end result of a process unique to its own planet. Armed with that encouragement, it set out across the stars to find the intelligence that it now knew without a doubt must be there.

Its parent star was lost in the vastness of the galaxy by the time it found what it sought. The star was a dim yellow one, near the edge of Determined's criteria for likely prospects, and its life-bearing planet was much farther from that sun than Determined would have believed possible, but its lifeforms had developed a strategy to deal with the lack of energy. Some of them fed on sunlight as Determined did, giving up their motive ability in favor of stiff skeletons that supported vast areas of solar collectors, while mobile beings ate the collectors. Such altruism among beings would have been impossible to believe, save that Determined witnessed it all across the planet, on every scale from the microscopic on up. And it obviously worked well; there was more life on one of this planet's continents than on its entire homeworld.

Yet none of it was intelligent. There were several false alarms among the larger mobile creatures, some of which reacted to Determined's presence in amazingly elaborate ways, but even the ones who approached their alien visitor turned out to have only one purpose: to eat parts of its body. Those who tried it inevitably died, and some of their companions even understood cause and effect well enough to stay away after that, but none held the type of intelligence that Determined sought.

It was about to give up and go on when it found the artifact. In a dry, mountainous desert, where it had gone

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to remind itself of home as much as anything, it came across a ceramic statue of a quadruped standing on its hind legs, its forelegs held up to the sides of its head and its mouth opened wide. Airborne animals had built a nest in the mouth, but something about it still sent shivers through Determined's body. This was not a statue of a happy creature.

Yet it was clearly an artifact of intelligent life. Determined turned once around, suddenly expecting to see the creature itself advancing toward its alien visitor, but the only motion was in the puffy white clouds that drifted overhead and the insects that crawled across the ground at its feet.

A little searching revealed several more of the statues, each subtly different. Some had withered appendages. Others had open wounds that exposed their internal workings. All seemed in pain, and all were facing or crawling away from the mountain behind them.

More searching uncovered ceramic blocks with squiggles engraved in them. This was in a different language than the one that Determined had invented to record its own thoughts and knowledge, but the engravers had provided pictograms to help define the meaning of their words. It was as if they knew that whoever encountered them would not know their encoding system.

Determined set about deciphering the messages, and eventually learned their meaning: *Inside this mountain lies radioactive material. It's bad for you. Don't go there.*

Of course Determined went inside. Radiation was energy, and this puny sun barely provided enough to stave off starvation. All the access shafts had been sealed, but Determined excavated its own. Inside the mountain, however, the expected feast turned to disappointment. There were rows of barrels, each filled with a glassy matrix in which were suspended radioactive pellets of uranium and plutonium, but they had all decayed to uselessness. Even if they hadn't been pure to begin with, it had been a long, long time since they had been placed here.

It was clear enough what they were, though. Under this puny star, the intelligence that had arisen here had needed a more powerful energy source to fuel its own building phase, and it had chosen to split uranium atoms for that purpose. Lots and lots of uranium atoms.

Why were there no signs of its presence on the surface? Determined rushed back to its landing craft and took it into orbit, where it searched every continent for any sign of intelligent life. Now that it knew such life existed, it found several artifacts it had missed before: straight lines where roads had run, a few leading to boxy ruins of buildings, most of them at the edges of circular lakes. Perhaps the local intelligence was amphibious?

Whatever it was, it clearly didn't live here any longer. Nuclear power would have allowed it to leave its energy-poor planet and move closer to its sun; perhaps it was on one of the planets closer in?

Determined searched every planet, but found nothing there. The innermost was a dead rock with no atmosphere, while the next was a dead rock with far too much atmosphere. There was even less sunlight on its surface than on the third world, where life had evolved.

Then, on the moon of that third world, Determined found more artifacts. Its ranging laser returned an unusually strong signal from six different sites, and when it investigated, it found a laser reflector placed at each site, next to the base of the landing craft that had clearly brought the intelligent creature who had placed it there.

The landing crafts had survived much better on the airless moon than the artifacts on the planet. Determined wondered why there were six different ones, rather than just one craft that the intelligence used to fly from site to site, as Determined would have done. There were very few clues. Three of the sites had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wheeled vehicles nearby, which the local intelligence had obviously driven in its explorations, and there were seismometers embedded in the ground near the laser rangefinders that had drawn Determined in the first place, but that was it. It looked as if the intelligence had come here six times, looked around for at most a day or two at a time, and then gone home.

Determined went back to the planet and searched the ruins, but time and weather had not been kind to them. It did discover something about the circular lakes, however: they were dug after the ruins had been built. In fact, in most cases they looked to be the cause of the ruins. Nearly every collapsed building had fallen away from its nearby lake, as if it had been blown over in a giant explosion. A nuclear power generator might blow up with enough force to create such a lake, but one would think that the intelligence that created it would learn from its mistake after the first few and revise its design. This seemed deliberate, as if it were trying to destroy its creations. Determined had gone through a phase like that, back when its name had been "Despair," but if it had created and destroyed dwellings during that phase, it would have changed its name to "Bored" long before it had done this many.

Determined briefly considered the possibility that the craters were from meteorite strikes, but their placement was anything but random. Something had targeted these sites.

The sheer number of them was beyond understanding, until Determined happened upon one of the native creatures in a dark corner of one of the ruined buildings. It was a small, furry thing with long ears and a round body, and it seemed to be sick. Determined had seen countless such creatures all over the planet, but this one shivered as if in pain and four tiny copies of itself slid out of its body.

Determined felt as if the universe had tilted to the side. These creatures could reproduce themselves. It had been seeing evidence of that ever since it had arrived, but the concept had been too foreign to accept until the proof of it had happened before its very eyes.

And if the little creatures reproduced, why not the intelligent ones? Maybe all these dwellings and all these lakes belonged to *different* intelligences.

Determined had to sit down. It watched the parent creature tend to its progeny, licking them clean of their wetness and offering them its underside to feed from. Determined's mind churned with the possibilities. Multiple intelligences on one planet. Not just a few, but hundreds of them, thousands, building entire cities where they would live and learn and work beside one another. What Determined had crossed light-years of space to find, these beings had enjoyed by virtue of their own biology.

The six spacecraft on the moon made sense now: six different beings—perhaps the representatives of six different cities—had each explored their satellite world.

Where were they now? Where were any of them? Had they all built starships and left for deep space in search of other minds like their own? What would be the point? They had everything right here!

And the lakes. The flooded craters. What could possibly have happened there? Determined had a bad feeling about those.

Eventually, in a steel canister in the same desert that housed the nuclear storage facility, it found its answer. The canister was no bigger than one of the native intelligences' upper legs, and its surface was pitted and worn with millennia of weathering, but its cargo was surprisingly intact: twenty-five thin sheets of hammered gold, each inscribed with squiggles like the ceramic warning block it rested against. Some of the squiggles matched ones on the block; enough of them that Determined

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could figure out most of the rest from context.

"To whoever comes after," the golden manuscript began, and it ended with, "May you fare better than we." In between was the tale of not just thousands, nor even millions, but billions of individual minds sharing this one planet. Billions of different viewpoints, generating billions of different theories on how these beings should live their lives—lives that were mere eye blinks in the history of their species. Waves of beliefs swept through the world, crashing upon the shores of other beliefs, more often than not with fatal results. If this writer was to be believed, their entire history seemed to be a search for more efficient ways to kill one another, until they finally discovered the power of nuclear fusion. So weak at the distance of their sun, but so powerful on the surface of their planet; fusion bombs had dug the craters that obliterated their cities, and had thrown enough debris into the air to block sunlight for years thereafter. Plants had died first, and then the creatures that fed on plants, and then the creatures that fed on those creatures, and even then the surviving intelligent ones—though Determined was beginning to doubt that assessment of their nature—kept killing one another for the last remaining scraps rather than pooling their resources and rebuilding. The writer of the account in the canister thought that it might be the last of its species, and it was dying of starvation, too. It expected cockroaches to replace its kind in the future, if anything survived at all.

When it had finished reading the sheets of gold, Determined laid them back in the canister and replaced the canister where its author had left it. Then it changed its name to Disappointed and went back to its starship in orbit. It had no idea where it was going, but it knew it could not stay here. It could already feel the fury building within itself, fury at other beings that could squander their opportunities like these had. If it stayed here, its scorn would probably lead it to wipe the planet clean even of the cockroaches, for fear that they might inherit something of their predecessors' attitudes.

It wondered if it should continue its search for intelligent life. The universe was infinite; there was undoubtedly more out there. But what if it didn't think like Disappointed?

Or worse, now, what if it did? ■

CUSTOMER SERVICE OR SUBSCRIBER ASSISTANCE

Please direct all changes of address and subscription questions to:

ANALOG SCIENCE FICTION
6 Prowitt Street,
Norwalk, CT 06855

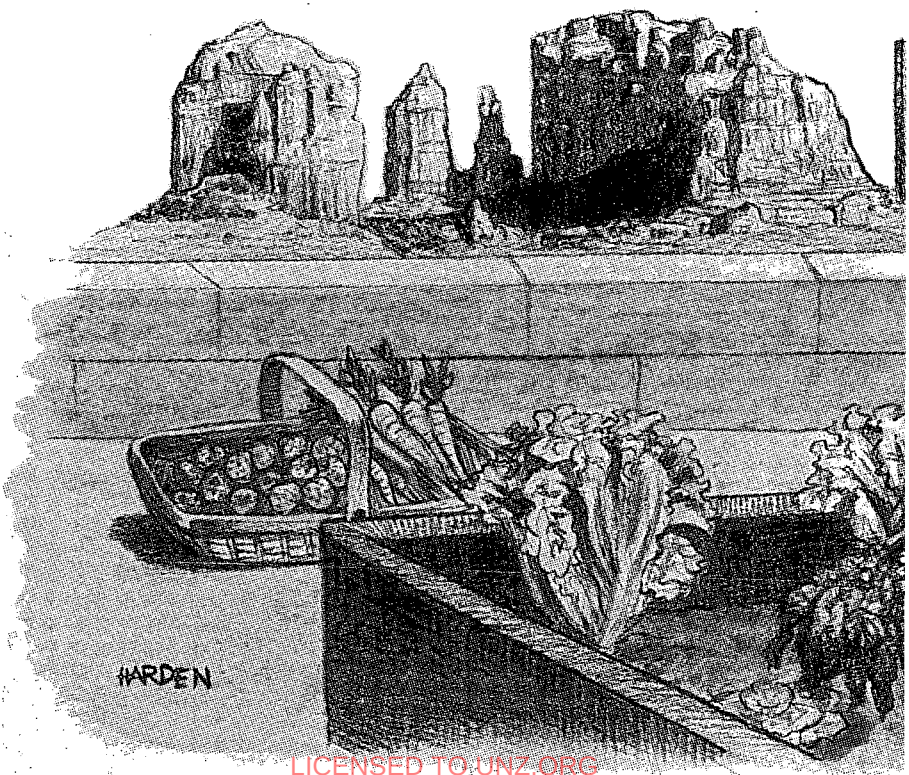
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tomorrow's Strawberries

Richard A. Lovett

Illustration by Laurie Harden

Think carefully about what you want—and when.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

On the second-luckiest day of his life, Bill Johnston was on his balcony, tending his vegetable garden. It wasn't much of a garden, but it wasn't much of a balcony, either. Bill had long ago learned how to get the most from his limited space. Snow peas twined up a trellised railing on one side; tomatoes were staked high on the other. In the center, flats of beets, carrots, and lettuce lay in neat rows, backstopped by green peppers, broccoli, and Brussels sprouts. Once, Bill had tried to squeeze in some zucchini, but the unruly plants had crowded out half their neighbors. Now, he settled for string beans and a few stalks of dwarf corn.

Another section of the balcony was devoted to berries: mostly ever-bearing strawberries, plus a few carefully pruned blackberries and raspberries. Tucked in a corner, near the sliding door from his kitchen, grew his favorite: a blueberry bush that usually provided enough fruit to decorate cereal or yogurt.

Even though Bill's apartment was near the top of the mile-high shaft, sunlight never penetrated and his balcony carried the subdued illumination of a forest understory—not that Bill had seen a forest in many, many years. The gardens of Bill's youth would have died in such dim light, but today's superplants did nearly as well as their ancestors once did in full Sun.

As always, Bill began with the strawberries. On a really good day, there were enough to mix with the blueberries and raspberries as a compote for a Belgian waffle—not the fruity extravagances of his youth, but adequate to refresh an old man's memory. He pushed aside leaves like black inkblots—gene-modified to capture all of the available energy. Fifty stories higher, black-leafed crops grew on every rooftop. Once, it had taken several hundred square meters of land to feed a single person. Now, a few square meters of roof-space did the same—less, if you didn't mind eating mostly reprocessed cellulose. The superplants were one of many miracles Bill had helped bring to a planet groaning to feed eleven billion people. But the gift had been a Trojan Horse. Today, even after Earth's government had finally intervened to force the population boom to a halt, a mere eleven billion would seem bucolic.

Bill gently pushed aside the strawberry leaves, looking for the bright colors of ripening berries, which, thankfully, were as brilliant as ever. It was a good day. A half-dozen were dead ripe and twice that many more were nearly so—so nearly that they would taste almost as good today as tomorrow. But Bill had long ago learned the value of deferred pleasure. With no insects, birds, or squirrels to steal them, the almost-ripe berries would be there tomorrow. So too would Bill. When tomorrow came, he'd be glad he'd been miserly today.

Across the shaft, one of Bill's neighbors was also tending a garden, although in her case it was roses, not vegetables. They waved to each other but didn't speak. Bill had never even asked her name, but like all of his neighbors, she seemed old. Not that she—or Bill—*looked* old. But old people moved differently than young ones, even if nanoboosters made their bodies medically indistinguishable. Bill could spot it instantly: a certainty of motion that came from having done everything so many times you never squandered an action, combined, perhaps, with engrained memories of pre-nano arthritis, which programmed your subconscious not to waste pain with incautious movements.

Most of the Bill's balcony neighbors showed the same economy of motion—marking themselves as far older than most of the people he met in the mall-walks or transport booths. Maybe you had to have lived long enough to remember the old days of light and room and space before you'd pay the rent for a balcony apartment.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Bill's neighbor could have grown her roses indoors. Bill could have raised hydroponic berries in glass-and-plastic fish tanks in any apartment on the planet. Electric power for grow lights wasn't free, but it was far less expensive than paying for the balcony shaft's wasted cubage. And hydroponics tasted just as good as his black-leafed superplants—far better than that reprocessed cellulose stuff, half of which was made from quick-growing cottonwood trees. But they didn't *feel* real—just as the rooftop forests and superwheat fields didn't seem real because no living person ever visited them. Just as the oceans were no longer real because they'd been turned into aquafarms of jet-black algae, tended by machines that brooked no intervention.

Bill had picked his strawberries and was beginning to look over the snow peas when the thought bubble interrupted him.

He'd not seen it float through the wall behind him, en route from the receiver, mounted on his kitchen wall. Even the pale, shimmering glow failed to catch his attention until the bubble chimed to announce its presence.

Another thing that marks people who've walked the Earth for many years is that they're not easily startled. When the bubble chimed, Bill had just pushed aside a leaf and was reaching for the perfect snow pea. Before attending to the bubble, he picked the pea, then, because snow peas are at their best the moment they're picked (and because there weren't enough of them today for even a tiny accent to the evening's dinner) he bit into it, savoring its crisp sweetness. Only then did he straighten and turn to the softball-sized globe of light hovering behind him. He gave a tiny nod, and the bubble drifted forward.

Some technologies are so alien that people who didn't grow up with them never really learn to take them for granted. Bill didn't receive all that many thought bubbles—he preferred older, more interactive modes of communication—but over the years, the number must have mounted into the thousands. Still, he never failed to be disoriented by the touch that wasn't a touch as the bubble penetrated his skull, or by the ensuing realization that you knew something new—completely and fully—with no recollection of ever having learned it. Initially, he'd distrusted the bubbles despite the assurances of the Galactics who'd sold humans this technology that they couldn't reprogram your brain. All they could do was implant information. But it was still disconcerting.

Now, he knew that he'd won a twenty-four-hour visit to the Ten Thousand Acres—one of the top prizes in this year's census lottery. Along with that announcement came a kaleidoscope of facts, some of which he'd probably known before, some of which he hadn't. With thought bubbles, it usually took a few minutes to sort out new data from old. The best test was the simplest: if you didn't remember how you learned something, it must have come from the bubble.

One of the intruding pieces of information was a too-precise definition: an acre was an old-fashioned unit of area measuring slightly more than 4,046.856 square meters. Bill knew damn well what an acre was. He'd grown up on 700 of them near Fallon, Nevada, where the desert soil had needed only a bit of irrigation water to produce the world's finest cantaloupes. Once, Bill had succumbed to nostalgia and tried to grow cantaloupes on his balcony, but they'd proven to be worse space hogs than the zucchini, and he'd had to pull up the vines long before they started producing melons, lest they strangle his entire garden.

Ten thousand acres was the size of a small ranch or a very large farm. It was 40.46856 square kilometers, the thought bubble had uselessly told him,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

as if he'd forgotten how to multiply. Bill preferred older units. Ten thousand acres was about fifteen square miles: fifteen square miles of dirt, sky, Sun—and millions and millions of living, growing things. Not enough room to get lost in, but a lot bigger than his balcony.

The Ten Thousand Acres was Earth's greatest park—its only *outdoor* park other than a few immensely expensive private rooftops. Most people viewed it the way Bill's parents had thought of New Zealand: as a mystical place they pretended they might someday visit, when there were no cattle to feed, no melons to tend, no equipment to repair, no buildings to remodel. The dream vacation, taken only in dreams. The difference was that New Zealand had been a trip Bill's parents could actually have taken. A visit to the Ten Thousand Acres couldn't be bought. It could only be won. Ninety-six people per day gained entry to the park, all by lottery, one per hour from entrances on the north, south, east, and west. Bill would be entering at 11 AM, his time, from Gate 3, whichever side that was on.

Ninety-six people per day, he knew without having to calculate (another gift of the thought bubble), was 35,040 per year. You could live a very long time and not have your name come up for this prize.

It was the second time Bill had won a lottery against near-impossible odds.

The first had come when he was only thirty-three years old, still thrilled to have escaped the small-town confines of Fallon. How ironic that with open space spreading in all directions, Fallon had felt so much like a trap. Like generations of farm boys behind him, Bill had fled the open space for cubicles: first to college, then to graduate school, and ultimately into astroengineering where, to his amazement, he'd been selected to help crew humanity's first interstellar spaceship.

His parents had been sad to see their only child turn his back on the farm, but they would have been proud to see him achieve his dreams. Unfortunately, they died in a car crash a scant month before Bill won the coveted berth on the starship *Intrepid*. There'd been enough time to sell the farm, but Bill had too much else going on to attend to it, so he handed the land over to a trustee, with instructions to lease it out until his return. Then he concentrated on the difficult mix of grieving and launch preparation.

The trip was intended to be a simple jaunt to the Centauri system. But the ship barely got out of the Solar System. Somewhere on the fringes of the Oort Cloud, that far-flung swarm of icy planetoids that is the birthplace of comets, a sensor net spotted the drive flare. The network plotted the trajectory, and when the spaceship had passed the orbit of Pluto, the sensors knew they'd found what they were looking for. By the time the ship was officially in interstellar space—defined by the Galactic Trade Convention as one-π^{th} of the way to the nearest star—it and humanity were fair game, and the humans suddenly found themselves awash in aliens.

One of the *Intrepid*'s missions had been to look for extraterrestrial life. But nobody had expected to find anything. An ancient conundrum, called the Fermi Paradox, had long ago noted that even with the slowest forms of sub-light travel, aliens, if they existed, should long ago have planet-hopped across the galaxy and reached Earth. As the twentieth century slid ever deeper into the twenty-first, more and more people had decided humanity must be alone.

Now that was demonstrably not the case. If the legions facing the *Intrepid* were any indication, the galaxy was packed to the gills with intelligent species. For the crew of the *Intrepid*, it was like being a rich visitor to a developing country, where vendors, beggars, and street urchins come at you from all sides, all wanting something. Only here,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the roles were reversed. Here, it was the technologically developing humans, who hadn't even come up with the simplest form of faster-than-light stardrive, who were beset by races blithely displaying every technology humanity had ever dreamed of, and more. The explorers were overwhelmed, not only by the number and diversity of aliens, but by being the center of so much attention.

They might have figured it out more quickly if they'd spent some time thinking about the Fermi Paradox.

Superficially, the answer to the paradox was simple: the Galactics had been waiting for humans to come to *them*. The Trade Convention had been around for a long time, and one of its early acts had been to require that any system with the potential of generating intelligent life lie fallow until an intelligence either emerged or failed to do so in a convincing enough manner for the embargo to be lifted.

But embargoed systems were rare. Very rare. Everywhere else, the paradox had been correct. If a place could be reached, it had been. And if it had been visited, it had long ago been colonized. As the first starfaring newcomers in a million years—a mere 11 billion people in control of an entire solar system—humans were temporarily the richest species in the galaxy. And among the crew of the *Intrepid*, Bill was the richest of the lot.

The location of the Ten Thousand Acres was something of a secret. A search of EarthNet, a tachyon-linked arm of the Galactic UniWeb, revealed nothing specific, although that was predictable: teleportation had rendered old-style geography irrelevant. But Bill couldn't even find a description of what his destination might look like. Apparently that was supposed to be a surprise.

The thought bubble had contained no information except a teleport code for somewhere in North America and the advice that temperatures could be as low as 10° C and as high as 35° C. Climate-appropriate clothing and supplies would be waiting in the arrival booth. It was hard to believe that other winners hadn't posted additional information to the UniWeb, but maybe the Web had been instructed to purge itself of information that might spoil the surprise.

When the appointed day arrived, Bill stepped into his personal teleportation booth and recited the code given to him by the bubble. There was a brief pause as the booth matched his identity against the code and verified that he would be welcomed by the receiver. Then the world blinked and he was in a tiny room, lined by racks of cabinets, one of which displayed his name in glowing red letters. The cabinet opened to his voice command, revealing hiking boots, a lightweight jacket, sunglasses, a water bottle, anti-sunburn tablets, and a backpack so light and comfortable it must have contained a hidden a-grav unit.

Bill slipped on the boots, donned the pack and the sunglasses, took a sunscreen tablet, and told the booth he was ready to exit. A door slid open and for the first time in too many years, he found himself facing a sunlit landscape.

As a teenager, Bill had visited New York City's Central Park during his family's one and only visit to the big city. He couldn't decide then whether he liked it or found it bizarre: the rolling hills and woods, sort of reminiscent of the cottonwood creeks of home, but tamed and manicured, flanked by high-rises that never let him forget where he really was.

Bill had expected the Ten Thousand Acres to be similar but on a larger scale: something on the order of an immense urban park, or maybe a slightly more pastoral landscape. But as he stepped through the doorway, the terrain that opened before him was a throwback to a vanished world. He now knew why there were no descriptions on the UniWeb. Part of being a lottery winner was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the chance to *discover* what the Ten Thousand Acres looked like. On another childhood trip, Bill's family had visited the Grand Canyon. He would never forget the sensation of walking toward the rim, through a pine woodland that seemed to extend forever in an uninterrupted tabletop. Then, practically from one step to the next, the world's greatest chasm was upon him—an infinity of air and colored rock dropping away at his feet, pulling an involuntary gasp from him even though he'd known it was out there, waiting.

The Ten Thousand Acres wasn't the Grand Canyon. That geological miracle had been bridged and built over, along with Yosemite Valley and the Pyramids and the Inca ruins and everything else on Earth *except* what now spread before him. But the Ten Thousand Acres hit him with the same gut-punch he'd found on the canyon rim.

At a guess, he was somewhere in the American Southwest, although everything was so perfectly Southwestern that he wondered whether it had been *constructed* as a compilation of desert archetypes. In one direction was a hoodoo landscape of sandstone, wind-sculpted into eerie, flowing shapes. Elsewhere, granite boulders were scattered like enormous bowling balls at the base of domed ridges—giant bread loaves baked in a geological oven, their crusts slowly weathering in the desert air. Between the sandstone and the hoodoos rose a mesa studded with saguaro cactus, junipers, and pinyon pines. It wasn't a heavily vegetated landscape, but the vegetation was green. Beautifully, wondrously, wastefully green. Not the eye-searing green of alfalfa in springtime, but green enough for a man accustomed to the miserly plants of perpetual twilight.

Rugged as it was, the Ten Thousand Acres was by no means wilderness. Behind the mesa, Bill could see skyscrapers rising like the confining walls of a mile-deep canyon. No, not a canyon: a pit. To each side, more skyscrapers rose just as forbiddingly, while behind him, others towered to dizzying heights.

The buildings were blank, gray, featureless. There were no balconies to collect light for strawberry flats, carrots, and snow peas—not even any windows. Most likely, the residents didn't even realize what lay next door. Perhaps the reason was to help preserve the Ten Thousand Acres' secrets for people like Bill, but it seemed as though the buildings had turned their backs to the park's open space—defiantly asserting that humanity no longer needed sandstone hoodoos, mesas, junipers, and all that they once represented.

The blank walls also underscored the fact that, for the moment, Bill appeared to have this entire landscape to himself. Once upon a time, he'd have taken that for granted in a Nevada whose long, sinuous mountain ranges reminded one early explorer of an army of caterpillars heading for Mexico. There, you could wander for days and meet more wild horses than people. Here, he shared the Ten Thousand Acres with ninety-five other winners, coming and going on various schedules.

Footprints attested to prior visitors, but there was no single, main trail. Rather, paths branched and fanned out, some disappearing among the granite boulders, some among the hoodoos. Some headed for gullies that offered scrambling routes of varying difficulty to the top of the juniper-clad mesa. The Ten Thousand Acres looked like open terrain, but it had so many nooks and crannies that if Bill was lucky, he'd spend most of the day by himself.

On average, there would be only one other person per hundred acres. In the boulders, hoodoos, and juniper woodlands of the mesa top, one hundred acres was a fair amount of elbow room.

The Sun was casting long shadows, but a chill in the air told him they were the shadows of dawn, not dusk. Bill was in good shape from years of sports-club

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

workouts, and the boots fit so perfectly that sore feet seemed unlikely. Before the Sun set, he could hike a long way, but he was suddenly overwhelmed by how much there was to see.

The moment the alien traders surrounding the *Intrepid* had learned that Bill owned a large chunk of real estate, he'd instantly become the center of attention. Within days, he'd sold the family farm for enough Galactic trade credits to buy his own luxury star yacht. He also set the standard for future negotiations by asking that the deal be sweetened with a piece of advanced technology—something that would make him as rich on Earth as the trade credits did in the galaxy at large.

Had he simply traded the farm for the yacht, Bill was sure he'd never get a chance to fly it. The government would appropriate it and tear it apart to see how it worked. Not that they'd learn anything useful. The yacht-maker, like many Galactic manufacturers, built its products to melt to slag if tinkered with by anyone but an authorized dealer, and Bill's 700 acres was nowhere near enough to buy the yacht's secrets. So he turned to another suitor—a banking firm that could negotiate a less risky deal: a big pile of money plus a technology he could actually afford.

Bill had his choice of several technologies, but the one he ultimately picked was a hyper-efficient automobile that looked to solve, once and for all, humanity's longstanding dependence on liquid fuels. But it didn't make him rich. Bill's trade credits were safely banked off-planet, but his automotive fortune wasn't, and he lost most of it to the space administration, which claimed ownership of all proceeds from the *Intrepid*'s unexpected metamorphosis into a trading mission.

Then the Russians sold off half of Siberia in exchange for teleportation booths. Overnight, Bill's automobile patents went the way of buggy whips. Not to be outdone, the Canadians auctioned off the Yukon for nanoboosters, the Danes sold Greenland for the first superplants, and the Chinese abandoned Tibet for a budget-level faster-than-light drive.

It was now safe for Bill to buy his yacht. He cashed in his trade credits and spent the next sixty years cruising the galaxy, awed in alternating turns by the lonely reaches of interstellar space and the teeming metropolises he found everywhere else. By the time he returned to Earth, his homeworld was starting to look like the ones he'd visited. An entire generation had grown up on Galactic technology, and the brightest were already finding jobs off-planet—the next generation of farm children feeling the call of distant, cosmopolitan cities.

Bill, however, had come full circle. He visited the family farm and found that it had been converted to a mile-high arcology, home and workplace to three million residents, human and alien. All of Nevada—in fact, the entire Earth—was going the same way, sold off parcel by parcel for trade credits and technology. The only exception was the Ten Thousand Acres: a monument to the planet that once was but would never return.

Bill's yacht was badly depreciated, but still worth a considerable amount of money. He sold it, leased his balcony apartment, and retired. By the time he won the census lottery, he'd been living there for seventy-three years.

Standing on the threshold of the Ten Thousand Acres, Bill's first impulse was to climb the mesa for an overview. But he suspected that every other visitor had the same thought. To the extent possible, he wanted privacy in his hundred-acre share of the landscape before him.

That brought another thought: something remembered from high-school history, something about one hundred acres and a mule. No, that wasn't right:

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it was only forty acres. It took him a moment to recall the context, but eventually it came. Late in the Civil War, some general had promised forty acres and a mule to former slaves seeking to start new lives. But the promise had been vapor, and few people collected on it before it was withdrawn.

Bill was the recipient of an equally fleeting promise: one hundred acres, but only for a day. And no mule. No, he thought as he adjusted the straps of his backpack, that wasn't quite right, either. He'd been given a high-tech mule. The pack definitely contained an a-grav unit.

He tugged the straps again and, flipping a mental coin, decided to head first for the hoodoos.

He wound up circling the central mesa. Beyond the hoodoos, he found badlands—steep gullies of soft, multihued rock, leading into unclimbable box canyons. The easiest path was to swing wide, close to the park's eastern entrance, at the base of another gray, windowless wall. But Bill preferred to take a middle course, hugging as close to the mesa as the terrain permitted.

After the badlands came grassy hills and then a creek in a narrow gorge that provided a cool niche for ponderosa pine. The water flowed from a spring somewhere on the mesa and sank into a cattail marsh at the mouth of the valley. Bill wondered whether the water supply was natural or artificially recycled, then realized it really didn't make any difference. If the creek was a replica of the real thing, it was a convincing one, and that was all that truly mattered.

Unavoidably, he met other people. One woman was boulder-climbing among the granite domes; another was sitting on a rock beside the creek, tapping her toes in the water and watching the ripples spread across its surface. One man had stripped to his shorts and was running barefoot over rock and sand: Bill saw him three times as he circled the mesa again and again, running his own private marathon through the desert. By the third encounter, the runner was limping, his feet crusted with blood, his face set in a mask that made Bill wonder whether he was actually seeing the landscape, or merely engaged in a desperate effort to cover as much terrain as possible before his twenty-four hours expired.

The runner had stashed his backpack somewhere rather than carrying it with him, but another man had located the a-grav controls and set his pack to hover, pulling it along behind him on a length of cord: a cute idea, but if you set the controls just a wee bit too strong, you risked losing the pack to the skies, like a runaway balloon. When Bill encountered his fellow lottery winners, they nodded to him, but neither he nor they ever spoke, and when they spied each other from a distance, each would adjust course to give the widest possible berth.

Eventually, Bill realized that most of the people he encountered, even the runner and the pack-floater, had something in common. Like his balcony neighbors, they moved with the precision of age. The only exceptions were the toe-tapping woman and one or two others, whose bodies exuded the loose-limbed non-grace once associated mostly with teenagers. Apparently, the census lottery was stacked in favor of people like Bill—people who'd seen enough of the modern world to truly appreciate that which had been sold to usher it in.

Late afternoon brought him back to his starting point, wishing he had time to circle the mesa again by a different route. Instead, he headed for the summit, hoping that everyone else wouldn't be camping there, as well.

He needn't have worried. The mesa was about 300 meters high, a tough enough climb even with an a-grav pack to dissuade those who'd not done their sports-club workouts. When he got there, he found that it was deeply incised by canyons such as the one that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fed the creek, creating plentiful places for rim-side camping.

Bill's pack contained both a tent and a sleeping bag, but he had no intention of pitching the tent. Instead, he propped his pack against a juniper, leaned comfortably against it, and pulled the heating tab on the no-stove-needed dinner he'd found with his equipment. Later, he'd slide into the sleeping bag, but for the moment, he was comfortable without it.

From here, the Ten Thousand Acres looked even less like wilderness than it had from the lowlands. Even though the nearest walls were two miles away, they were more intrusive from this higher vantage, blocking a third of the sky and making him feel that even on the mesa top he was at the bottom of an enormous, rectangular box.

As darkness fell, the sense of confinement increased. The lowlands faded into dusk, while the walls became ever more oppressive: dark, brooding presences forming the all-too-close boundaries of his world, dwarfing even the Ten Thousand Acres into insignificance. Here and there, flashlights flickered as other visitors set about the business of making dinner or setting up camp, but these were quickly extinguished until all that remained was a rectangle of dusky sky, inaccessibly far above. Bill had intended to lie awake all night, savoring the bittersweet magic of a starlit, desert sky. But watching the stars in this manner was worse than bittersweet: it made him feel more than ever like a prisoner, trapped in a pit he would never again climb out of. After a few minutes, he closed his eyes and slept away most of his remaining time in this wilderness that was really a prison.

He woke rested but unrefreshed. Yesterday, he'd wondered what would happen if he refused to leave. Now, when a thought bubble drifted toward him from some hidden receiver, he was more than ready. The bubble informed him that he did not have to go out the way he'd come in—in fact, that was discouraged, to keep him from interfering with the next arrival. Instead, it told him where to find an exit booth in the woods behind his campsite, and reminded him that he had a little less than two hours before he must go.

Bill lay for a few more minutes on the ground, remembering childhood nights beneath friendlier stars, when he'd dreamed of the day he would escape the wall-less prison of small-town life. He'd escaped all right, helping humanity trade it all away for thought bubbles, gray skyscrapers, cellulose food, and a-grav packs with nowhere to carry them.

He jammed the sleeping bag into his pack and headed for the exit an hour early.

The thought bubble had told him he could keep the boots, pack, and other supplies as souvenirs. For the next several days, they sat in a corner of his apartment, the clothing sweat-stained and rank, the boots covered in desert-red dust that he refused to let the housebots vacuum away. Each morning, Bill tended his garden. In the afternoons, he strolled the pedestrian malls, window-shopping for high-tech gadgets he didn't need, and logging double-normal time in his sports club, training for he-knew-not-what.

He tried to slip back into his old routine, but it felt hollow: merely a way to pass time that long before had ceased to have purpose. Rather than rejuvenating him, his visit to the Ten Thousand Acres had forced him to see the boundaries that constricted him every waking moment. He tried virtual reality, programming his bedroom walls to mimic the open spaces of prairies, mountains, and desert. But however good the illusion was, he couldn't forget it was an illusion, and it made him feel more trapped than ever. He even contemplated a return to space—he still had enough money for a very long trip, tourist class. But

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he knew what he'd find: boundaries everywhere, with everything homogenized into the type of hive-civilization he longed to flee.

After several weeks, he came to a decision.

He spent the next month lifting weights. One morning, when he figured he was about as strong as he would ever get, he treated himself to all of the ripening strawberries, including the ones that would normally have waited for the morrow. He did the same for the snow peas, plus a green pepper that would have been better in a few days. He pulled up an entire row of immature beets and picked a half-dozen green tomatoes, then steamed the beet greens and their tiny tubers and sliced and fried the tomatoes the way his mother had when the first frost killed the vines and left a surplus of baby tomatoes that would never ripen.

Then he put on the boots and sweat-stained clothes. As an afterthought, he added the jacket, although it had been a pleasantly warm morning in his garden. He dumped the remaining equipment out of his pack and ripped out the lining to expose the a-grav controls. A status light indicated that the unit still had plenty of power, so he carried the empty pack onto his balcony.

He looked upward at the square of blue that let in the trickle of diffuse daylight that allowed his superplants to eke out their gene-modified existence. He looked at all the other balconies above and below, with other people's mementos of their own long-vanished youths: not only produce and rose bushes, but rhododendrons, cacti, and potted palms. When he'd moved here, he thought the light shaft was a blessing, but it was just another box—even narrower and more cramped than the one that had hemmed in his mesa-top campsite.

Bill took a firm grasp on one of the pack straps. With his free hand, he dialed up the a-grav power until the pack tugged firmly upward. Checking his grip, he twisted the dial a bit further, then grabbed both straps as the pack lifted him toward that beckoning square of blue.

Planning his escape, he'd considered trying to slip his arms through the straps so he could wear the pack rather than dangle from it. But mentally rehearsing that move had convinced him it probably wouldn't work. This was good enough, and simpler. He had to kick off from a few upstairs balconies before he reached the top, but when he did, it was clear going, as the a-grav lifted him steadily higher and a breeze carried him sedately sideways.

Below, the yawning pit of his balcony shaft was a light-colored rectangle among fields of dark superplants—one of perhaps a dozen similar shafts visible across the vast, rooftop plain. Subtle differences in hue distinguished one supercrop from another, as the fields spread in black mosaic to an unblocked horizon. He would have preferred a green mosaic, but from here, the dark plants no longer looked quite so bleak. Above, the sky was a bowl of blue, flecked with unblemished puffs of cloud. There was no sound, no sense of motion except the steady passage of the farms below him. For the first time in years, he was no longer confined.

Bill had worked hard at his weightlifting, and the pack straps provided a comfortable handgrip. But eventually, his arm muscles began to burn and cramp. It was a moment he knew must come. Even if he could have reached the a-grav controls to lower the pack back to Earth, returning from this true freedom would feel even worse than returning from the Ten Thousand Acres. When his arms hurt badly enough that soaring across the rooftops was no longer fun, he took one last look around, and let go. By then, it was a long way down.

Several of Bill's neighbors had seen him ascend, ensuring that his death did-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

n't go unnoticed. By nightfall, his landlord had posted the vacant apartment on the UniWeb, for twenty-four-hour auction. The high bid went to a Klan!pfft cephalopod, who didn't really want the balcony and who later swapped apartments with an old woman who did.

Even after the swap, the rent was extravagant, but the cephalopod considered itself lucky. Earth was a new and different place to live, but with Terran life expectancies approaching the Galactic norm and the immigration boom at an end, residential cubage was hard to find.

Initially, many Galactics had objected to the Ten Thousand Acres as an appalling waste of cubage. But not any longer. Bill had chosen a particularly spectacular way of making his exit, but he wasn't the only lottery winner who'd been unwilling to return to his former life. With the land rush fading into history, the Ten Thousand Acres had proven a useful way of opening up a steady trickle of cubage.

The Galactics would have understood why, until the end, Bill never ate tomorrow's strawberries until tomorrow. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

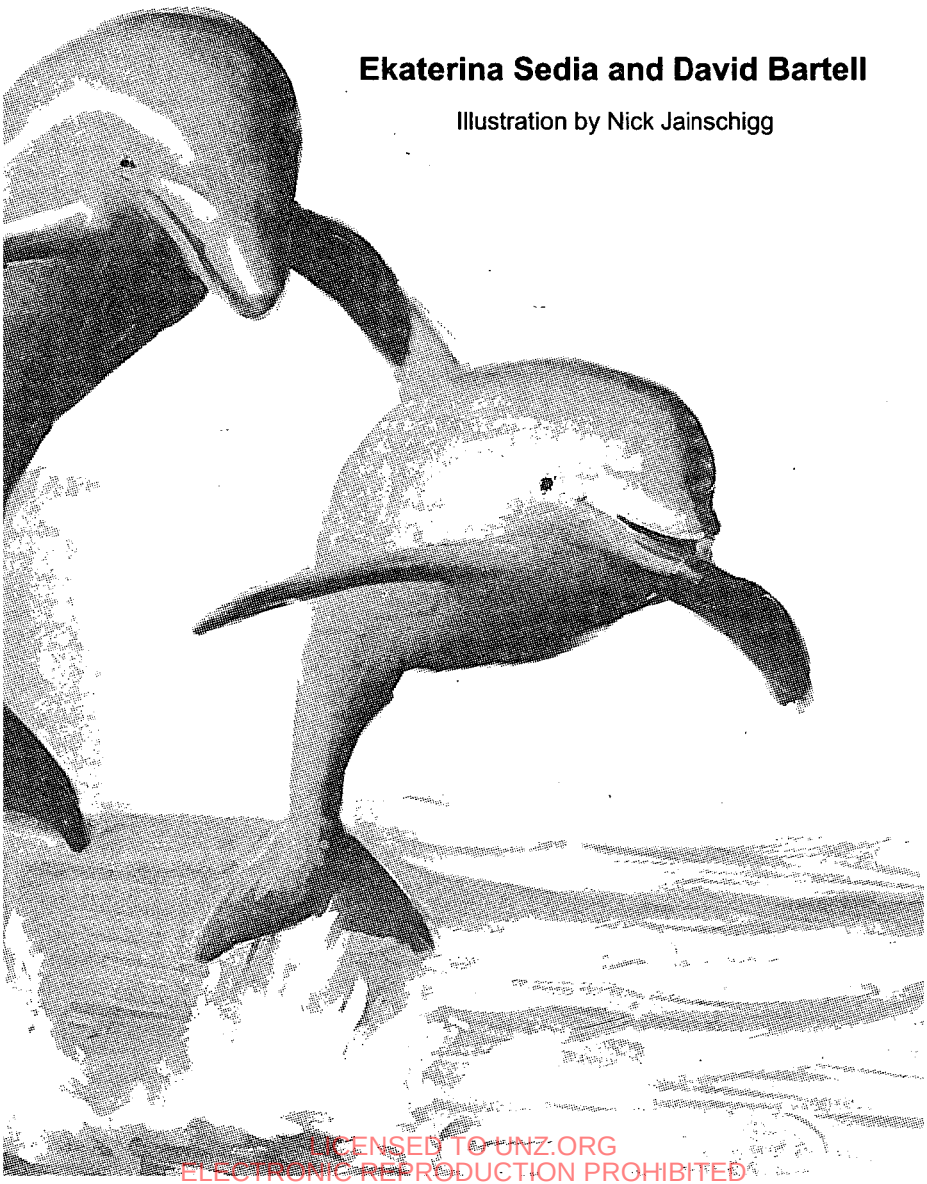
"Cute," under some conditions, is a survival trait. Which may or may not be a good thing. . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Smiling Vermin

Ekaterina Sedia and David Bartell

Illustration by Nick Jainschigg



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

If Gus and I hadn't eloped, tuna would still be legal, the DEP would have better things to do than to flush smoke bombs down people's toilets, and Japan would be one whole island bigger. However, elope we did. Consequently a lot of people got upset—families, friends, and coworkers—and all conspired for revenge behind our backs. We were blissfully unaware, happy together with our combined five cats, twelve-foot python Giggles, and other pets.

All right, let me start at the beginning. It's Saturday, July 15th, our first anniversary. Neither Gus nor I are sentient, since it is seven in the morning. The phone rings.

I nudge Gus, and he places a pillow over his head, saying very distinctly, "Not home." I sigh and climb over him, and run to the kitchen to pick up.

"Jessie love," the phone booms in a despicable English accent, loud enough to blow the dandruff off my head. "Rise and shine, sweetheart." Righto.

"Jack," I moan. "Do you know what time it is?"

"Do I?" Gus' dad says. "Of course—I've been up for hours, thanks to Gus' mum, as well as yours." I shake my head, trying to dispel the picture of a threesome featuring Gus' divorced parents and my mom. "And your dad, too," Jack adds.

"What, are you having an orgy?" I ask, rubbing my left eye.

Jack laughs his inimitable belly laugh—listening to it, I always think Santa, or an English version of Paul Bunyan, or the Green Giant. In reality, Jack is just a vintage Gus: same lanky build and brown eyes. Hard to believe that Gus is a disillusioned geneticist, while his dad is a construction worker. "Girl, get your mind out of the sewer," Jack says, "get dressed and come on out. We're waiting for you."

With a dawning of horror I peek between the curtains. Sure enough, there's a limo. The window rolls down and Jack grins at me. I swear into the phone.

"That's what I said when I heard about the idea," Jack says. "Now be a dear and wake up Gus. Your mum says 'formal wear'—I'm in a suit, believe it or not. Oh, and Gus' mum says to bring swimsuits."

"Did you enter us in a beauty pageant?" I ask, and wake up some more.

Jack giggles. "I'm sure you'd win it, love. But no. Come on out."

I curse and shake Gus awake. I tell him of the ambush just outside our house, and I can see in his eyes that he thinks it's another one of my stupid jokes. What was it about the boy who cried wolf? Gus goes to see for himself. He throws the curtains open and a limo full of parents and siblings bask in his naked glory. Gus jerks the curtains shut and looks at me like it's my fault. I laugh hysterically, but make it to the shower.

"Happy anniversary," Gus says after me.

"What, no present?" I say over my shoulder.

"I'll come up with something," I think he says, but I'm not sure because by now the shower head is spouting into my face.

Half an hour later, cats and fish are fed, and the rest are left to fend for themselves. I go to check on Gus, and see him in front of the mirror, with a long, dark shape wrapped around his neck. For a second I think that one of the snakes has finally snapped, but realize it's just a tie. I didn't know that he owned one, let alone that he was able to tie it. Hell, he actually looks good in a suit.

I put on the little black dress, or I should say, the dress, since it's the only one I've got. I pack up our swimsuits, and Gus' inhaler—just in case. I brush my hair and we're ready.

It's still early, but already sweltering. We exchange a miserable look, and open the limo door.

"Happy anniversary!" scream my par-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ents, Gus' parents, my sister Angie, Gus' sister Katie, and our sisters' boyfriends.

"It was until recently," I say, and plop down next to Jack.

Gus is more polite than I am, and he says hello, and shakes hands with my dad, and Angie's and Katie's boyfriends. He then sits down next to me, and he and Jack exchange a few friendly jabs over my head, until I grow weary of it and elbow them both.

"Jessie!" my mom says with reproach, and gives Gus a sympathetic look. "I don't know how you put up with her."

"I just do what she tells me to, and keep quiet," Gus says.

Jack laughs. "My boy has become a man."

Gus' mom Linda rolls her eyes. "Oh, Jack, as if you were so henpecked!"

"He still is," Gus says. "Why couldn't you just get a divorce like normal people and never speak to each other again?"

"Now that was an awful thing to say," my mom says. "Jessie has been a bad influence."

Jack pounces to our defense. "Now just a minute," he says. "My son is quite capable of being rude without coaching."

Jack produces a hip flask of whisky—he can be counted on in times of emergency. I join him and Gus. The boyfriends grow bold and drink, too. Moms are appalled. The limo comes to a stop. By then we're tipsy, and hobble into the humidity and sunlight.

"Surprise!" about two hundred people scream.

We look around and see an absolute excess of extended families, friends, coworkers, and people we used to go to college with. Gus dives back into the limo, bangs on the partition, and yells, "Drive!" to the confused driver. Both moms intercept him and drag him back out.

"You brought it on yourselves," Linda says. "If you had had a proper wedding, you wouldn't be here now."

"Happy anniversary!" the monstrous crowd roars in one voice. We are trapped.

"Where the hell are we?" Gus says into my ear.

I look around, and see a vast green expanse. And some buildings in the distance. And a festive crowd. And a river. "Camden Aquarium," I say.

"That's right," Angie chirps. "We figured that you guys like animals, so we thought you'd like to see the dolphins."

"They have dolphins now?" I breathe.

Gus points, and I see a huge new building with an outdoor pool and a sign that says "Cetaseum."

"Could be worse," I say, and clasp Gus' fingers. "They could've taken us to the circus to watch monkeys make pyramids on dancing elephants."

We go up to the grand terrace overlooking the Delaware and Philly skyline. More people are swarming there and hovering over cheese platters. And damn, somebody went all out, because we seem to have the whole place rented out. Paul, Gus' best friend, approaches us with a paper cup in hand, his glasses shining, but Gus is looking with dismay at someone else in the crowd.

"Traitor," Gus hisses. "What on earth did you invite Sommers for?"

"I thought you'd get a kick out of it," Paul says. "He's guest-teaching at Temple U. for a year."

A distinguished-looking elderly gentleman glides towards Gus, "Professor" all but stamped on his forehead. "Ah, Lanley," he says. "Good to see you."

"Hi, Jim," Gus says, and shakes hands with his former Ph.D. advisor. "You heard I quit research, right?"

Sommers laughs. "I figured out as much after you didn't publish in over a year." He looks at me. "And this must be your lovely wife."

I introduce myself and shake his hand.

Sommers turns back to Gus. "And what do you do now, Gus? Industry or government?"

"Neither. I run a pet shop," Gus says.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Oh really?" Sommers says, at first surprised, then not. "It seems quite a shame to waste such a brain, but if it makes you happy . . ." He gives Gus' pony-tailed skull an appraising look. "Say, you're close to Philly, right? You should stop by one of these days. I teach vertebrate development regulation this fall, and you could give a guest lecture. What do you say?"

I scowl at Gus, for his eyes acquire an unholy glimmer. "I'd love to," he says. "When?"

"September, probably the third week," Sommers says. "I'll give you a call. But you should stop by the labs right away. There's some excellent research on dorsal differentiation going on. And the tissue culture folks are doing in-vitro gene regulation—you'll love this, Gus."

Gus is glazing over, and I nudge him in the ribs.

"Sure, I'd like to come by," Gus says. I nudge harder. He puts his arm around my shoulders. "Excuse us a moment," he says to Sommers.

"What?" he says, once we're a safe distance away.

"Gus," I say. "Don't go back to the lab. Remember what happened last time?"

"Yeah," he says. "Just a bit of formaldehyde poisoning."

"And an acute psychotic episode featuring four-point restraints," I say. "Come on, you still have to carry your inhaler around."

"It was an accident," he says. "Besides, this time I'm just going to take a peek—I'm curious."

"No," I say. "Curiosity killed the cat. No more research. The shop keeps you plenty busy."

Gus gives me a puppy look. "Please?" he says. "I'll just give one talk, and perhaps go on a short tour of the facilities. I swear I won't touch anything."

"You won't do any research of your own?" I say, scowling. "And you swear not to co-author any papers?"

"I swear," he says, raising his hand. "I'm just dying to see what work is being done with the in-vitro stuff—if we can regulate the gene expression, we can make all sorts of modifications. Not to mention normal mammalian development without the uterus . . ."

"How lovely," I say. "It's a plot by your sexist ex-advisor to get rid of the women, isn't it?"

Gus laughs. "Everyone knows that women are just incubators. Now, go fetch me a Corona."

"Woof!" I bark politely, rolling with it.

When I get back, he and Sommers are engaged in a deep discussion that goes completely over my head, despite five years of work in a cancer lab and a B.S. in biochemistry. I give Gus his drink and go to say hello to all the people around. I find Jack with a pack of other Lanleys—they all are tall and thin, high-strung like collies, and have a characteristic hungry look to them. Jack throws his arm around my shoulders, and asks me what's wrong.

"It is awful to have a husband who's freaking brilliant," I tell him.

Jack pats my shoulder. "There, there, love. Far as I'm concerned, the only brilliant thing he's ever done was talking you into marrying him." Damn, Jack is great for my self-esteem.

"Thanks," I say. "I just worry that he'll start on some research project again."

"If he does, dump his ass," Jack says. "There're plenty of eligible men around who'd kiss the ground you walk on."

"You'll be my first choice," I say.

He grins. "Ah, Jessie, you flatterer. Come on, let's do shots with cousin Gary."

"We're supposed to go swimming," I say. "Or is that the idea—you want to get me drunk and walking around in a swimsuit?"

Jack laughs. "Now, that's an idea."

"I second it." I feel Gus' hand on my butt.

"Sommers released his grip?" I ask, and remove his hand.

Gus smiles. "Come on, let's change—

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

apparently your parents sprang for a swim with dolphins. We have to go to the cetaseum; it's reserved for the two of us. Is that great, or what?" He looks at me with the wide-open, innocent eyes of a man who has nothing to hide. My heart sinks—I know this look. He's up to something.

I cheer up once we actually get in the water—it's nice and cool, and the bottlenose dolphins are circling at the far end of the pool. We put on masks, snorkels, and fins. The trainer, who seems vastly indifferent, coaxes the dolphins our way with some fish. I put my face in the water and see them coming, and I shiver.

"Ready for a ride?" says the trainer.

I laugh and look at Gus. "I feel like we're in some asinine romance novel," I say, trying to fling my wet hair in slow motion like they do in movies. It whips me in the eyes and hurts like hell.

"I guess you're the wild honey and I'm the mad-but-tender scientist," Gus says. "But really, it is nice."

"It's wonderful," I say, rubbing my eye.

It really is more fun than I expected. I work up some courage because I want to be first to hitch a ride. I grab onto the dorsal fin and let the dolphin drag me along until I'm in danger of losing my swimsuit. Gus takes a turn, and we stop where we can stand to catch our breath. I'm beaming from ear to ear, and Gus notices. "That wasn't too bad," he says. He seems to forget Sommers.

"Yeah," I say. "I suppose we'll have to say thank you."

Gus grabs my shoulders. "Who are you, and what have you done to my wife?"

I laugh. "You know what would be really cool? A pet dolphin."

"We'll need a bigger house," Gus says with a thoughtful expression. I should've known then.

A dolphin twirls around us, almost touching Gus, and he starts. "Hey, what was that?" he says, looking down into the water.

"What was what?"

"It looks like a piece of its skin just fell off."

"Yeah," says the trainer. "Their epidermis sloughs off every few hours. Keeps them streamlined."

Gus looks into my eyes like he's about to propose marriage all over again, takes a deep breath, and ducks down into the water. The dolphins are nowhere near, but he's puttering around and taking a while, and I realize that he hasn't been swimming since his accident. Finally he comes up and spits out his snorkel. He doesn't look good.

"Are you all right?" I ask.

"Yeah," he gasps. "I'm fine. I think I had better get out now though."

"Let's find your inhaler," I say.

I see him putting something into his bathing-suit pocket, and my sinking feeling returns. Oh my God, the bastard didn't keep the dolphin skin, did he? "Gus," I start to say, but he's wheezing now, and I help him out of the pool.

September comes, and the surprise anniversary party and the dolphins become fond memories. Gus gives his talk and has his tour of the Temple labs, and that's that. Fat chance, because then Gus just has to go back—someone there absolutely needs his input, like it's life or death. Then the great sage Sommers himself comes across some strange DNA stretch, and wants Gus to "mull it over." Gus mulls to the point of neglecting his store, not to mention his wife. He's mulling and inputting and "helping people out," and I haven't seen him in days.

I've cried myself to sleep, but his whistling outside the apartment wakes me up. Gus quiets and opens the door, and I hear him slinking in, like his tomcat Cheshire after a night of debauchery and murder of small animals. I hear the fridge door, and walk into the kitchen, blinking at the bright light.

"Oh, hi," he says. "Sorry I woke you—why don't you go back to sleep? I'll be in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

shortly."

"Like heck you will," I say, and rub my eyes. "You promised me no more research."

"Yes," he says. "But . . ."

"No," I say. "Just a year ago, you were a freaking mess with lungs burned out by formaldehyde, crying on my shoulder, swearing on your immortal soul that you were done."

"I was pretty twisted on Haldol at the time," he says.

I roll my eyes. "Were you twisted when you asked me to marry you?"

Ha! No answer.

"What is it with you?" I yell. "You promise and you promise, and you still go back."

"I guess it is a little addictive." He tries to hug me. No dice. "I'm sorry," he says. "Look, nothing bad is going to happen again. I'm not doing anything like that. This is for Sommers."

"Screw Sommers."

Gus is oozing remorse. "Okay, I'll call him tomorrow. You and I will relax for a whole week, and then I'll go in for a few days, just to clean up. Okay?"

I do feel bad for Gus. He loves research and he is good at it . . . too good, if you ask me. This is why I have to be the monster who clips his proverbial wings. Then again, if man were meant to fly . . .

"Okay," I say. "But if you create life again, I swear I'm flushing it down the toilet."

The next day he keeps the store open for more than two hours, and the eager shoppers file in. All of Gus' stock is home bred, parasite free, and exceptionally beautiful. People drive from as far away as Connecticut to see if they can talk Gus into selling them something. I've convinced Gus to charge more. The shop actually makes money—when it's open.

It's hard for Gus to be stuck in the shop while he knows I'm at the lab, so I swing by during lunch break with some tuna sandwiches. Gus is doing his trademark bit: "Sir, I am very reluctant to sell you a basilisk unless you can arrange for proper accommodations. Six feet by eight would be ideal, and you'll have to install a small pool—three by four would be acceptable. Yes, I know what the book says. No, I'm sorry, I cannot in good conscience sell you a basilisk. May I suggest a water dragon? It would be happy in what you have to offer." I think part of the appeal Gus and his store have to the public is the fact that he's so reluctant to sell them anything. Buying something off Gus, even if it's just a goldfish, is a badge of merit.

While he's busy, I head for the backroom to see if the fat-tails have hatched.

"No!" Gus calls to me, breaking away from an enthusiast who actually flies from Japan every so often to buy from Gus.

I grow suspicious. "What have you got back there, Gus?"

"Nothing," he lies, and averts his eyes. They happen to fall on an aquarium full of tiny fish I'm not familiar with. They look like guppies. Guppies? That would be so beneath Gus. . . .

I take another step toward the back room.

"Jessie, don't," he says. "Please. It's your anniversary present."

"It's late."

"I know."

The Asian guy is looking at his watch and hemming politely in a resonant George Takei voice.

"All right, space cadet." I smile at Gus, but my heart is uneasy. "I'll leave you with Mr. Sulu."

"Matsumoto," says the Asian gentleman.

I turn to leave. Well, pretend to. I sneak over to the back room while Gus isn't looking and swing it open with a triumphant "Aha!"

I gasp.

At first, I think I'm looking at a pair of gray bananas tumbling up and down in a huge tank I've never seen before. Oh my

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

God—they are bottlenose dolphins. Eight inches long. I blink a few times, but they stay, cavorting and chirruping, full-grown and so wondrously cute that I can't even swear.

"Close the door!" Gus moans, rushing over. He grabs the door and slams it. "Jesus, I hope Matsumoto didn't see anything."

"Gus!" I say, adrenaline still kicking.

"Look," he says quietly, "I'm really, really sorry, but I had to do something special. Besides, you wanted a pet dolphin." Of course, in his mind it's just not special enough unless it involves gel electrophoresis and gene regulation. "I hope you like them."

"I love them," I say, my voice actually shaking with emotion.

Gus heaves a sigh of relief. "Then you're not going to flush them down the toilet?"

"Never. What do you feed them?"

"Guppies."

"What were those fish in there?" Mr. Sulu says from behind us. Shit. I hope he didn't see anything.

"River sharks," Gus says. "Special order."

"May I see them?" Matsumoto asks.

"That wouldn't be a good idea," Gus says.

Matsumoto sees Gus' face and suddenly he seems worried that Gus won't sell him anything. He makes a little bow and smiles. "That's okay," he says, but I think he saw.

Gus must think so too, because that night he brings the miniature dolphins home. "Can't risk anyone seeing them," he says. We don't have a tank big enough, so we seal the drain and fill the tub. In they go.

"They should be all right in there," Gus says. "They're pretty hardy, and don't give a squat about salinity."

We watch the dolphins for a while, hand in hand. I notice very sparse and fine reddish hair protruding from their smooth skin, especially their rostrums, so they look a bit like beatniks.

"Gus," I say with a hands-on-the-hips voice.

"Well, yeah," Gus says. "I was hoping to tinker out the hair. You see, the nuclear DNA is actually dolphin, but the cytoplasm is from a . . . erm . . . from a hamster. There're some genes in the extra-nuclear DNA that regulate size, and I tweaked them a bit. Hair is just a side effect. I could get rid of them, if—"

"They're fine as they are," I say. "Any other side effects I should know about?"

"Well, there's this." He points to the dolphins.

At first I think that they are playing, but soon see that they are going at it pretty hard. I giggle. "I thought that rabbits were famous for this kind of thing."

Gus grins. "Hamsters are even worse. I hope they aren't fertile."

"What?" I say. "You don't know? Does that mean we'll end up with tons of little dolphins?"

"I hope not," Gus says, "or I'll be in trouble. I put some balancer chromosomes in—these little devils are inversion heterozygotes."

"Uh-huh," I say, and remember my genetics class. "Aren't those only partially sterile?"

"Well, yes," Gus says. "I thought that they would be sterile anyway—inversions were just an extra precaution."

I sigh. This is the problem with Gus—he always means well. I'm moved that he goes to such lengths to please me. How many husbands would create a new species just to please their wives?

The dolphins are so amorous that we name them Romeo and Juliet. Turns out that they are fertile—a week later, Juliet is pleasantly plump. I bet she thinks she's a whale.

In another month, we have sixteen more dolphins. "Shit," Gus says, but he beams with paternal pride. I open my mouth to tell him how irresponsible he is, but see one of the tiny dolphins, half an inch long, with whiskers on its rostrum, swim up to Juliet and start suckling. "Aw," I say.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

Now that I'm married, Mom thinks she and I finally have something in common. She's forgiven the elopement, and she calls to invite us out to dinner. Gus and I would much rather stay home and watch the dolphins, mess with the cats, and play with Giggles (the last two are combined—cats hate the python, and the python seems to think that cats are snacks). We have just moved the baby dolphins to a tank in the living room so we can drain and clean the tub.

"We should go to dinner with your folks," Gus says. "Romeo and Juliet could use some quality time in the tub without the kids."

I am in a good mood, so I agree. Our shop, Snakes and Things, is on the way. I say "our" because even though it's Gus', I named it, and often help with the stock. The shop is closed since Gus doesn't trust anyone else with the animals, but a car is sitting outside anyway. New York plates. A man gets out as we do.

"Mr. Matsumoto!" Gus greets. "What brings you here? We're actually closed right now . . ."

Matsumoto bows and smiles like a kid, but also looks nervous. "That's okay," he says. "I don't buy anything today. I'm just in town for few days, and stop by to say hello."

"Hello," I say, and start to add an immediate "and goodbye" but catch myself.

He bows to me.

"I'd love to chat," Gus says, "but we're off to meet someone for dinner. We just stopped by to check up on things."

"That's all right."

We head toward the door, but Matsumoto is tagging a little too close behind.

"Mr. Gus," he says.

Gus' smile is downright saintly. "Perhaps if you come by tomorrow . . ."

"That okay. Tomorrow not good. Too much work." He stands too close, and his face is a mask of unease. "Mr. Gus," he says. "I just want ask question." We wait, which makes me uncomfortable too. "Mr. Gus. I just wondering if you have seen any suspicious men around? Some Japanese maybe?"

Gus looks at me, and I shake my head. "No," he says.

"Ah, good!" Matsumoto says, and the tension in his face unwinds almost instantly. "Good. So sorry."

"Is something wrong?"

"Nothing wrong! No, nothing wrong. Sorry, sorry!" He leaves with haste, and we tend to business.

"Queer cuss," I say.

Gus shrugs. "They follow me home."

We head off to dinner.

"How's your family, Augustine?" Mom asks, as we get settled at the restaurant.

Yes, Gus' name really is Augustine, and he's still pissed at me for telling Mom. "Numerous and drunk," he says. He tears his gaze off the dessert menu, and looks at my mom. "How are you, Mrs. Lucca?"

I interrupt. "How come I call your parents by their first names, and you call mine by their last?"

"Because he's got better manners than you," Mom says.

"Because my dad thinks he's in court if you call him Mr. Lanley," Gus says. "Gives him flashbacks." He waves over the waiter and orders drinks for everyone, including a double Scotch for my dad.

"Now, Augustine, don't bad-mouth your father," Mom says. "He is a very nice man."

"Nice?" I say. "You should probably know that the Lanleys immigrated to the U.S. because the British started cracking down on soccer hooligans. Their baggage consisted of steel pipes and bicycle chains."

Dad actually laughs at that, but wilts under Mom's stare. "Anyway," he says. "Gus, I read in the newspaper that they banned the cloning of humans. What do you think of that?"

The drinks arrive, Gus mutters

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Cheers," and tosses his drink back like a professional. I follow with a bit less panache. Dad looks at his glass. "I didn't order that."

"I did," Gus says.

Dad drinks, and says, "So what about the human cloning?"

"Why clone humans? It's expensive, imperfect, and you need tons of complex machinery. If you want kids, the traditional way works better and is a whole lot more fun." He gives me a lustful look and pulls me closer, forgetting that we're with my parents.

I nudge him sharply, and he snaps out of it. "Anyway," he says. "I don't think we're in danger of being overrun by clones of Hitlers and Einsteins just yet."

"What about transgenic organisms?" Dad says. He has finished his drink, and grows more animated than usual.

"These are more dangerous, yes," Gus says. "The reason I quit was that I grew concerned with the overall implications. Once you make a new species, you cannot recall it. Especially bacteria—larger critters can at least be contained." What a hypocrite.

The food arrives, and Gus is in such a hurry he doesn't wait for the waitress to set his plate down—he wrestles it away from her. I understand Gus better after having visited a Lanley family gathering—twenty or so perpetually hungry guys make Thanksgiving dinner into a competitive event. Still, I wish he didn't look at his plate like a kid at the Christmas tree—he makes me look like a bad wife. Which I suppose I am, since Gus does what minimal cooking happens in our house. Gus does not say another word until the end of the dinner.

We arrive home tipsy and amorous and struggle up the stairs. Gus holds me with one hand, and reaches for the door with the other.

"What was that?" he says, pausing. "Did you hear something?"

I'm laughing too hard to have heard anything. "Hurry up," I say. He opens the door and we tumble into the darkness of our hallway, tripping over shoes and meowing cats.

And someone's feet.

The light flicks on, and I see five Asian gentlemen in dark three-piece suits. I feel annoyed rather than scared at being interrupted, and I say, "What the. . . ?"

I never finish, for one of the gentlemen clasps his hand across my mouth, and grabs me across the stomach with the other arm. I bite his hand and kick him in the shin—the only positive side of high heels—while Gus knocks another one out.

Wow!

I didn't know he had it in him, but the generations of soccer hooligans rear their shaven, toothless heads, and my sweet Gus is swinging at the Asians like a pro pugilist. He has an advantage of arm length, but one of them manages to land a back kick on Gus' face. I hear a snap, and he steps back, holding his nose, and dripping blood.

Gus shakes his head and launches another attack, while I try to help out. Well, my punch isn't as good as his, and even though I have a few years of martial arts training, no one has ever taught me how to do it in a dress and high heels.

Someone grabs me from behind, and in a flash of intuition I kick with both feet at the guy who's pummeling Gus. He staggers, and falls onto Gus' knobby fist. I hear a quiet "click" and feel pressure against my temple.

"You've got to be kidding," I say, and skew my eyes to see. "Is that a gun?" I've never seen a real gun before. Well, maybe on a cop, but that doesn't count.

Gus stops struggling and puts his hands up. As if on cue, a sixth gentleman steps out of the living room. Holding a plastic bag with my dolphin pups. "Mr. Lanley," he says. "I apologize for the intrusion. Mrs. Lanley," he adds, bowing to me. Then he pats the bag.

Gus snorts, blowing pink bubbles out of his nose. "Those belong to my wife.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

And you won't get them through customs. The FBI will be on you as soon as you leave this place."

The leader of the thugs nods. "I shall have to rely on your cooperation then. My associates will stay with you until I am out of U.S. jurisdiction." He gives Gus a level look. Thug Number One gestures with the gun.

"Very nice work," says the leader, looking into the plastic bag. "Are there any more?"

I almost glance towards the bathroom, but don't. They aren't getting my Romeo and Juliet. "You son of a bitch," I say.

The leader shakes his head and clucks his tongue. "Mrs. Lanley, such language is very unbecoming in a woman." He looks Gus over. "But apparently your husband finds you appealing regardless. I hope appealing enough to keep his lips sealed. Well, I'll leave the two of you."

"They'll suffocate in that bag," I say sulkily.

"They'll be fine for a while," he says. "I have made additional preparations. They're worth nothing to me dead."

For the first time it hits me that there might be a market for the miniature dolphins. A big market, with lots of money, especially because it'd all be illegal.

The leader exits, followed by two of his thugs. Three stay with us. They've figured out that the threat to me is enough to keep Gus well behaved, so they don't watch us too closely—they even let me take Gus to the bathroom to wash his face. I survey the damage: his nose is busted, and two of his front teeth are loose but hanging in there.

"I'm sorry," he says, as I dip his face in the sink full of cold water. "I screwed up again."

I look at Romeo and Juliet, then back at his poor face.

I sigh. "Gus, it isn't you who screwed up. It's the Yakuza in our living room. How the hell did they find out?"

"Maybe that's what Matsumoto was trying to tell us," he says.

"You think he's one of them?"

Gus shakes his head, spraying blood and cold water all over me. "No, not Matsumoto. But I think he saw Romeo and Juliet that day, and he probably opened his big mouth at the wrong time. He's an amateur collector of exotic fish, and other things too, I think. He knows that I messed with transgenic stuff, and always bugs me about it. I can see him getting tangled with the wrong people back home."

"So when you held back on him, he ratted you out," I say with disgust.

"I doubt it." Gus probes his shaky tooth and makes a face. "He's harmless. Probably just in over his head."

"Whatever," I say. "He's the one that screwed up, the bastard with his stupid dolphin grin."

"Had to be," says Gus. "No one at the lab really knew what I was doing."

I daub his nose, and he winces. "Sorry," I say. "At least you inflicted some damage of your own."

"Yeah," Gus says, and cheers up a bit. "So did you—Dad would be proud."

I wipe his face the best I can, and we go back into the living room, where the Three Stooges are watching anime. They're new shows here, but the Yakuza must have grown up on them, because they are glued to the glass teat. One of them has a puffed-up eye, and the other has a mouth that is blooming into a rosebud. They talk amongst themselves in what I take to be Japanese. Gus sits on the couch, and I curl up next to him. When you're watching cartoons and you don't have a gun to your head, you can't help but laugh.

"You guys want some beer?" I say.

The Yakuza consult amongst themselves and decline politely.

"Men's room?" one of them says in an almost unintelligible accent.

Oh shit. If he goes to the bathroom, he'll see Romeo and Juliet, and that will be that.

"Me first!" I cry, jumping up like I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

have an urgent case of diarrhea.

I rush into the bathroom and lock the door. There are my two gray darlings, tail-walking with only their flukes in the water, greeting me and probably wondering where their pups are. "Shh," I say, flushing the toilet for some cover noise.

I look around desperately. There is no way to hide the bathtub apparatus. I could try to sneak the dolphins out in my shirt and dump them in a tank, but I don't think I can do it without the Yakuza seeing. Still, I can't leave them in the tub. I coax them up and they roll playfully into my hands.

I'm about to drop them into my shirt when there's a knock at the door. "Please," says the snaggletoothed gangster who actually looks like Moe, evidently a little desperate himself. Shit! Without thinking, I cradle the dolphins in one hand and open the top of the toilet tank with the other. I put Romeo and Juliet in. I disconnect the handle and replace the lid before I can see my poor little lovers in that awful place. "Toilet won't flush!" I yell through the door.

Then I go out. "Toilet is broken," I say to Moe. "Won't flush." I let him past, and he closes the door, looking in the tub. I cross mental fingers.

Back in the living room Gus is glaring questions at me. I force a smile. "No flushing," I say.

In a moment Moe returns and sits to watch TV as if nothing has happened.

Three minutes of inhaling lets go in one big exhale. "I need a drink," I say, going to the kitchen.

Gus looks over our captors as I hand him a beer. "Did you fellows know there are racial differences in alcohol dehydrogenase activity?"

"No," says one of them.

"Europeans were selected for it," Gus continues. "In the Middle Ages, water was pretty poisonous—open sewers and so on. So being able to metabolize alcohol was a matter of survival. Asia did not have the pollution problem, so their alcohol dehydrogenase is often defective . . . not working properly, that is. And here we are. Cheers." Gus sucks down his beer. Now the thugs are watching us more than the TV. I can't tell if they are sneering, or are trying not to laugh. "There are also differences in the earwax," Gus goes on. Oh God, here we go. "Could one of you guys pick your ear and show Jessie what Asian earwax looks like?"

The Yakuza seem mildly offended.

"Seriously, look!" Gus says, picking his own ear. His finger comes out a shiny rust color. "See?" he says. "Sticky and brown."

The Yakuza look positively sick.

"What's wrong with them?" I say.

"Most Asians have gray crumbly earwax," Gus says. "Cool, huh?"

I feel that I'm not being a very good hostess. "You guys want anything to eat?" I say.

They're a little green around the gills, but nod, so I pick up the phone to order pizza. It's kind of interesting, because I never thought I'd be ordering pizza with a gun to my head. Eventually the hostage situation turns into a slumber party. Even though Gus and I are pissed, we're also relieved that the thugs didn't find Romeo and Juliet. And they don't kill us. We all spend the night in the living room—I bring them pillows and blankets, but they do not sleep. Neither do we. Cats come and hang out too, all five of them ecstatic to be petted simultaneously.

At the break of dawn one of the guys receives a phone call on his cell—he just listens, and hangs up. All three rise and bow to us. "We apologize," Rosebud-mouth says. "Thank you for your hospitality, Mr. and Mrs. Lanley. I remind you to keep these events to yourselves."

"No sweat," I say. "Have a safe trip . . . wherever it is you're going."

Once they leave, I rush to the bathroom to put the dolphins back into the tub. Thank God they're all right. Then I look at Gus. His nose is swollen, and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dark shadows under his eyes make him look like a lemur with insomnia. "What do we do now?"

"First of all, let's get Romeo and Juliet to Dad for safekeeping," Gus says. "He has a good tank."

"All right," I say. "I'll take them, but you should go to the emergency room. Where is Jack?"

"He should be in Camden. I think they're doing some bridge repairs."

Twenty minutes later, I'm driving down the Atlantic City Expressway toward Ben Franklin Bridge. Romeo and Juliet are quiet in a bucket of water on the floor. There are indeed repairs—the right lane is closed, and traffic squeezes by with much honking. I spot a cluster of orange vests and hardhats; they are doing something horrible to the road, and it involves jackhammers.

I pull over behind the orange cones and get out. I am greeted by whistling and catcalls. One leering worker manages to flash his belly and his butt crack simultaneously.

"Hi," I say. "Is Jack Lanley around?"

"Yeah," the guy says. "What d'you need him for, miss? Wouldn't you rather talk to me?"

"I would if I were interviewing for Asshole of Fortune," I say, leering back.

The guy wants to laugh but he's mad so his face doesn't know what to do. He just huffs to shake it off, and escorts me to Jack, who's operating a jackhammer.

"Jessie, love," he yells, and turns off the hammer. "What's going on?"

I explain the situation. This is the reason I like Jack: I tell him that the Yakuza has broken into our house and stolen an entirely new animal species created by his son, and Jack says, "Did he put up a fight?"

"Yeah," I say. "A very good one, in fact."

Jack beams with paternal pride. "All right. What can I do for you, love?"

"Come see," I say, and he follows me to my car.

I show him Romeo and Juliet, and he cracks a smile at the tiny dolphins. "Blimey," he says.

"They need a safe haven."

"A pail is no place for beauts like these," Jack says. "Let me put them in my truck. I'm off shift soon, and I'll get them to a proper home. I promise." Just as he takes the bucket, some idiot picks up Jack's hammer and accidentally turns it on. This close it sounds like a sewing machine making buttonholes out of my eardrums, and it bucks the worker like a bronco. It glances the bucket, which drops on its side onto the road. Romeo and Juliet spill out onto the hot pavement.

I am frozen in horror as they flop helplessly. I grab them up. The water is gone, the bucket is split. I have no way to keep them wet in this heat, and with the traffic stopped . . .

"What are you going to do?" Jack says, seeing my face.

"They're going to die," I say.

We both look over the rail at the river, thinking the same thing. It's a long way down, but they'd probably survive the fall. I slowly walk to the side of the bridge. If they do survive, and are discovered, Gus could end up in a lot of trouble. Knowing Romeo and Juliet, the river could soon be full of these creatures, and then Gus could end up in jail.

But if I don't drop them over, they'll die before long. A laughing gull squawks overhead, and I think it's spotted Romeo and Juliet. I turn away. There's got to be some other way to save them.

"Boy!" says the imbecile with the jackhammer, finally cutting power. It's the butt crack guy. "Sorry I broke your bucket. Oh hey, whatcha got there?"

Romeo looks up at Buttcrack and giggles. "Hey!" Buttcrack says. "The little fella likes me!"

Before I can say a word, his huge hands grab the dolphins and toss them over the rail. The moron beams with pride for his quick thinking.

"You'll be all right now," Buttcrack says to the falling dolphins.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I look over the bridge to the dirty Delaware below. The water is slicked with oil and full of God knows what.

Jack's hand rests on my shoulder. "They'll be all right," he says. I'm afraid so.

It's late June, and it's finally feeling like summer. Gus is at the store, and I bum around the house, tuna salad sandwich in hand. Our last can.

The doorbell rings, and I let in two guys in full camouflage. I try not to laugh—ever since the "Dolphin Menace" made the news, the DEP has been acting like Navy Seals.

"More bombs?" I say.

The guys nod, and look at the sandwich in my hand.

"It's pre-Prohibition," I say. "These tuna were in the can before the little dolphins started displacing everything that swims."

One of the DEP guys rolls his eyes. "Real dolphins got caught in nets even before the rat-dolphins came along," he says.

I ignore that and sigh. "God, I miss sushi."

The other DEP guy cracks a sympathetic smile. "You and the whole of Japan. That's where these things originated, you know. You think these stink bombs are bad? They said on the news that one of the smaller islands in Japan got infested so badly, they had to bomb it off the face of the Earth."

I try not to look guilty as I escort them to the bathroom, where they prepare to flush their bombs down the toilet. The little dolphins made their way into the sewers, and the only way to get them throughout the line is through every storm drain and residential commode.

"You can't use the bathroom until 7 PM," the DEP agent says before they leave.

I sigh, and head for the store. Gus is in the back room, and doesn't hear me come in. He's holding a hose in his hand, and filling up a tank.

"Gus," I say.

He jumps up and sprays water all over himself. "Don't look," he pleads. "It's your anniversary present."

"It's early," I say, but try to peek around him.

"I know." He blocks me. "It's for last year."

I finally manage to thrust my head under his arm, and gasp. At first, I think it's Romeo and Juliet. Then, I realize that these are hairless, and only five inches long.

"I said I could tweak the hair out," Gus says.

I clasp my head. "Gus, I thought you'd have learned by now."

"I have," he says. "These are both males. Happy anniversary." ■

(EDITOR'S NOTE: Gus and Jessie first appeared in "Alphabet Angels," in our March 2005 issue.)

VISIT OUR WEBSITE
www.analogsf.com

Don't miss out on our lively forum, stimulating chats, controversial and informative articles, and classic stories.

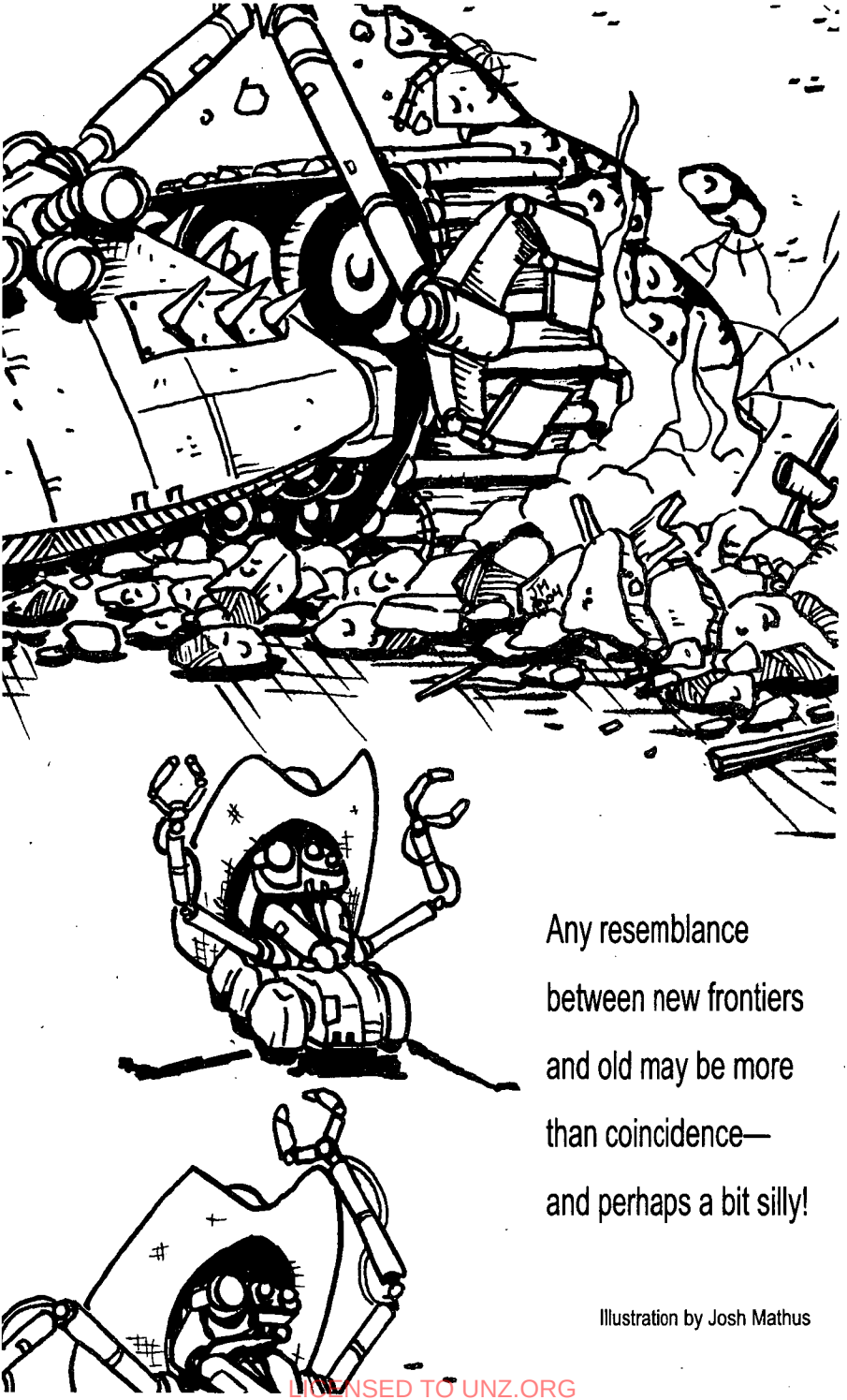
Log on today!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

High Moon

Joe Schembrie

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Any resemblance between new frontiers and old may be more than coincidence—and perhaps a bit silly!

Illustration by Josh Mathus

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It was a hell of a morning to be driving to the Moon.

Wind howled and buffeted the car. Tree branches littered the streets and sheets of rain pelted my windshield like a shower head turned on full blast from six feet overhead. The predawn light provided barely enough visibility to dodge the occasional mad jogger and bicyclist.

"*This had better be important, Lester,*" I murmured to myself while swerving to avoid the storm-amputated limb of an evergreen tree. "*We work twelve hours a day, and then you won't even let me get four hours sleep without calling me back! This had better be important—or I'll personally bury Pecos alive under a ton of regolith!*"

Sipping my mocha, I steered my battered Toyota into the business park and pulled up to the Pegasus Lunar Mining Corporation suite. I flung open the door—and was startled to see Wendell Huston, CEO and founder of Pegasus, sprawled over the receptionist's desk. At my entry, Wendell slowly stirred, raised his head, and blinked.

"Hello, Brian," he said, and yawned.

"Uh, hullo, Wendell," I said. "Uh, what are you doing here, this time of morning?"

"Morning? It's morning?" Wendell checked the computer screen. "Man, I must have dozed off. I was reviewing the budget and—well, long story short, you and Lester had better find a strike quick, or we're going to be hurting."

Through the office entrance's glass door I could see a sticker in the corner of my windshield saying I needed an oil change six months ago. My two hundred thousand shares of Pegasus common stock wouldn't even buy me that. Wendell wasn't telling me anything new.

"Well," I said, preparing to skip through a verbal minefield, "the latest drill samples look promising."

"That's what Lester was—"

"Brian!"

Lester Kim hissed my name as only he could do. He had rolled up the hallway so quietly neither of us had noticed.

"It's about time you showed up!" he bellowed. "I need you in Ops—right now!"

Wendell straightened, the grogginess melted away. "You've made a strike?"

"Uh . . . no." Lester shoved back his hair, badly in need of a trim, and studied the floor. "It's more of an, uh, equipment problem."

"Oh." The grogginess—and about ten more years—returned to Wendell's face. "Well, good luck fixing it. Let me know how it goes."

"Brian." Lester looked at me. "*Please?*"

I drained my cup and tossed it in the trash. And okay, it was childish, but I stomped after Lester into the Operations Room.

While I shed my threadbare overcoat and brushed off the raindrops, Lester shut the door and met my glare with his own.

"I told you this was urgent, and you stopped for coffee!"

"Mocha. I also stopped for a 'Help Wanted' sign in a drug store window." I plopped in a chair and slumped. "God, Lester, when will this end? I'm behind in my rent, they're threatening to deactivate my cell phone, and that mocha blew my weekly breakfast budget. And you want me to spend my life here! Frankly, I'd rather enjoy a real life on this world than some cowboy fantasy on another—"

"Someone was snooping in camp last night."

I hadn't enough sleep, and it was too early for a sledgehammer. "Huh?"

"See for yourself."

Lester motioned toward VR Workstation 1. I sighed, and strapped into its sensory feedback devices: the seat that bucked and swiveled, the gloves that provided tactile stimuli, the VR helmet that immersed our audio-visual senses. Lester rolled over to Workstation 2, a motorized tilting platform adapted to his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wheelchair. We slipped our helmets over our eyes.

Desktop icons floated in front of me. I reached with my gloved hand and touched the square labeled *Lunar Prospector 3.0*. The VR gloves tweaked with a pulsed feedback, and the window interface opened.

Wedged between the menu and task bars of a typical computer application was a scene of barren, cratered plains, beneath a black, star-powdered sky—with Earth glowing just above the horizon in the northeast.

When I turned my head, the lunarscape turned with me. When I raised an arm, a mechanical claw rose into view. When I pressed a foot pedal, I felt the bumps and jolts of motion.

All of this sensory experience is courtesy of Lunar Rover UN Registry WL651—affectionately known as "Wiley."

Wiley is a robot the size of a toaster oven and lives on the Moon. He has wheels for locomotion, claws for grasping, and camera eyes for vision. Wiley's telemetry signal travels over the Clavius Impact Basin regional cell phone network in the southwestern quadrant of the lunar near side, to an Earth-Moon radio communications system, to the terrestrial Internet. From there it's delivered to my workstation in a business park on Earth.

Wiley doesn't think; I do that for him. Wiley inputs sensory data into my VR equipment, and I command him the same way.

Wiley is pretty cool as alter egos go, and I like him. But unlike Lester, who is a VR fanatic, I can never forget I'm in that business park. The Apollo astronauts gazed over the lunar horizon at Earth and experienced a cosmic paradigm shift. I see the same view through Wiley's high-definition camera lenses and still worry about my rent.

I was contemplating my lack of emotional immersion, when something entered Wiley's field of vision.

Another rover, a six-wheeled foot-and-a-halfer, trundled around a rock and approached. The rover was identical to Wiley, except the front registration label read PK23S—and the camera mounting wore a sombrero. It was Lester's rover, "Pecos," and it was a full-size sombrero.

The camera pylon rose, and the sombrero rose as well. The sombrero turned as lenses focused on Wiley, my rover.

My earphones registered Lester's voice: "It's in the lab. Come on."

Lester rotated a one-eighty and Pecos-the-Rover headed toward camp. Lester's rover wasn't faster than mine, but there's a three-second signal delay while electromagnetic waves dash between Moon and Earth and back, so he got a considerable distance ahead and reached the nearest hill before I even started moving.

I followed across the gray-green plains of craters and dust beneath a black sky. Entering our mining camp, we wended through the late lunar afternoon shadows cast by drills, carts, and our other prospecting gear which had been hauled up at enormous price from Earth (or manufactured on the Moon at slightly-less-than-enormous price). Lester's rover bee-lined toward a prism-shaped tent. I rolled in after.

On the low table within lay row and column of slug-like lunar drilling samples. Neatly labeled and organized, they represented six months of searching for a palladium-rich fragment of the primordial asteroid that created the Clavius Impact Basin.

"What's the problem?" I asked. "Everything's in place."

"Look harder. I'll wait."

Lester's rover picked up a cord and twirled a lasso. That's difficult to do on the Moon in spite of the lower gravity, because of the signal delay. Lester practices all the time, and he's good.

Extending my claw, I yanked the cord away. "Don't play games, Lester. Now, what makes you think a spy was here?"

"Wheel prints."

I tilted my head down. Wiley did like-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wise, and I saw what Wiley saw: a criss-cross of rover wheel prints imprinted on the moon dust. The vast majority of the prints were three inches wide, and had a v-mark in the center. They were our wheel prints.

Then I noticed the new wheel prints.

These were only an inch wide, and spaced four inches apart—a third of Wiley's wheelbase. There was no v-mark.

"Oh," I said. "Did you check the security cam?"

"Laser blinded."

"Have you followed the prints?"

"I figured we'd do that together. Safety in numbers."

He exited the tent. I caught up, and we set off toward a nearby hill, following the wavering parallel lines of the intruder's wheel prints in the steeply slanted sunlight of the final earthday of the two-week lunar daytime. We topped the hill, descended into a valley, and ascended another hill. A human being would barely notice the gentle lunar slopes, but our camera lenses were mere inches off the ground, and it was like riding through canyons.

All the while, I felt watching eyes.

"Do you see now," Lester said, "why I wanted a gun?"

"Whatever we're following isn't much bigger than a pocket calculator, Lester. We don't need a gun, we need a fly swatter."

The wheel prints abruptly ended, obliterated by larger prints—*much* larger prints.

They were tractor tracks, not wheels, and as wide as Wiley's chassis. They implied a vehicle that dwarfed our human bodies as well as our minuscule rovers.

An untutored investigator might look at the prints and conclude the big rover ran over the small one. We'd seen this trick before, however.

"Our spy hitched a ride," Lester observed. "And you know there's only one rover that big."

I bobbed Wiley's camera mounting. "Bartholomew Palladium Consortium Excavator Number One."

Lester's rover nodded back. "Yep. Big Bart himself."

My mind and my future were both cloudy. "We should tell Wendell."

"Wendell's a great entrepreneur, Brian, but his talent is talking to potential investors and raising funds. His idea of action here will be to send a strongly worded e-mail to the UN bureaucracy."

Lester gets bombastic at times, but for once I could see his point.

"So what do you suggest?" I asked.

"We go into Clavius Gulch," he replied, "and talk to the sheriff."

"You mean, go into Clavius Station, and talk to the United Nations Lunar Policy Enforcement Representative."

"Sheesh, Brian! Everyone here calls it Clavius Gulch, and everyone calls him the sheriff. Why can't you deal with that?"

I tapped one claw with the other. "One: I am never going to wear a cowboy hat on my rover. Two: I am never going to speak 'Old West Lingo.' " I planted my claws against my sides. "We're here to make money, not play games."

The sombrero swiveled back and forth. "Brian, you may not like the 'lingo,' but here's my assessment of the situation: Big Bart's gang is claim-jumping. The sheriff needs to round up a posse and bring them to justice—or else, as you would put it, we won't 'make money.' Now, aside from terminology, do you have any objection to what I'm saying?"

I thought about it, then sighed.

"Just don't tell me, 'A robot's got to do what a robot's got to do.' "

I swear, his rover gave me a wounded look.

We left camp down a well-worn trail and traversed barren plains whose sterility would have intimidated any pioneer of yore. Of course, seeing Earth hanging in the sky (and "upside down," no less) wouldn't have helped much in the sanity department, either.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Eventually, a hand-made, hand-painted sign appeared:

CLAVIUS GULCH
POP. 102

Clavius Station is a few blocks of slapdash buildings built on rover-scale so that most are no bigger than a bedroom in an earthside home. Yet no matter how puny the warehouse, shop, or store, every third establishment has the word "Emporium" in its name.

The unlighted streets, as dusty as anywhere else on the Moon, were thronged with microrovers like our own, nearly all of them wearing cowboy hats. At the patch of pavement loftily called a "spaceport," a robotic lunar lander, a fraction of the size of the ancient lunar excursion module that had once transported humans to the Moon, was being offloaded by stevedore microbots. Other rovers, towing covered wagons, carried freight between spaceport and warehouses and the outlying mining camps that dot the Clavius Impact Basin.

The center of town is dominated by a ten-meter tall spire, the space gun. We paused at the top of the hill to watch the load and launch operation. The spire tilted from near vertical to horizontal, pointing due northeast, down the length of Main Street. Bots stuffed refined palladium and a locator beacon into an artillery shell, then ramrodded the shell into the muzzle. The cylinder elevated again, until it targeted Earth.

A robot at the space gun control panel pressed the firing button, which breaks the diaphragm between the pressurized gas tank and the discharge cylinder. The muzzle puffed vapor. The shell exited at lunar escape velocity—a mile and a half per second, too fast to see except on slow motion instant replay. Wiley's interface software has that feature, and at one-hundredth speed I watched the still-blurred dot climb from the space gun into the sky, coursing from Moon to Earth, a Jules-Verneian tale in reverse.

The shell was bound for the shallow coral beds north of Australia, where a teleoperated minisub would retrieve the palladium payload four days later. From there the metal would find its way into a few of the quarter billion or so personal computer motherboards built annually on Earth. Palladium, precious as gold, was at the zenith of historical demand, rendering lunar mining a practical business proposition.

"Someone's making money," I said, watching the gun lower again. "Or is 'profit' too crass for your idealism?"

Lester shook his rover's head. "I only wish more of us were getting rich. But they need to clean up this town before that happens."

We rolled down the hill, past the graveyard of derelict rovers on Cemetery Hill, and drove among the collection of dilapidated structures that the locals called Clavius Gulch. Several robotic citizens tilted their hats. "Hello, Wiley," they said to my rover. "Hello, Pecos," they said to Lester's. We knew them by their rover names too—Slim and Tiny and Big Red and Diamond Jim and Chester. The Moon's "population" is so small that everyone knows everyone, almost.

"The UN rep's name is Laszlo, right?" I asked.

"Yep," Brian replied. "Sheriff Laszlo."

"Laszlo doesn't sound like a Western-style nickname."

"Nope. I hear he's a post-retirement civil servant, telecommuting from his personal computer somewhere in Southeastern Europe. The way his rover moves, he's either drunk or connected by phone modem."

"You doubt he'll help much."

"Yup. At least meeting him face to face will get more action than e-mail."

I steered toward the earthsky-blue globe of the UN office, but Lester deflected us toward a nearer, larger structure—with a giant neon-colored sign blazing in Mesquite font:

MARLENA'S PLACE

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LUBRICANTS OF ALL KINDS

"He'll be in the saloon," Lester said.

"Of course," I replied. "The wellspring of lunar lunacy."

"Brian, when are you going to get in the spirit?"

"When it pays my rent, Lester."

We rode up the ramp in front of Marlena's Place. Lester raised his claws and pushed open the swinging doors, and we entered the "barroom".

What we heard when we passed through the doors was the jangle of player piano music and a half dozen conversations roaring at once from the tables, where prospecting rovers sporting cowboy hats, bandannas, and firearms sucked on lubrication canisters doled out by tiny spider bots. All of the non-squelching voices and sound effects in hard lunar vacuum were courtesy of radio transmitters placed about the room and the Sonic Simulation Channel signal-integration subroutines of our Lunar Prospector 3.0 software—which also registered a crash when a lubricant cylinder fell off a waiter's tray behind us (don't ask me how LP 3.0 does that; I think it has something to do with the rover's backradar detecting the motion).

Forced by company rules to continuously monitor vehicles whose construction and transport to the lunar surface cost millions of dollars, the human rover operators found diversions while their rovers were being serviced: an argumentative poker game in the corner, a European-style cabaret playing on a wall screen that to a microrover seemed as big as a theater stage. All in all, Marlena's is a pretty elaborate set-up for what is essentially the lunar equivalent of an automobile lube shop.

"Hello, boys, can I help you?"

The sultry voice came from behind. We turned and Lester tilted his sombrero to a rover with a sleek, silver chassis adorned with jewels and pearl beads, and crowned by a towering lace headdress.

"Howdy, Miss Marlena," Lester said. "You're looking lovely today, as always!"

"Pecos, it's always good to see you!" gushed the proprietress of the lubrication bar as her claw patted the side of Lester's robot. The deep blue lenses inspected my rover. "I see you brought Mr. Wiley T. Wet-Blanket with you."

"Brian will behave today."

"If he does, I'll give him a custom hat for free."

Her camera mounting nodded toward nearby shelves, where several cowboy hats rested, everything from sombreros to Texan ten-gallons. Marlena makes the headgear herself: metal frames covered with fabrics grown in a hydroponics garden. Legend has it, in the early days of the Palladium Rush, she handed out hats to everyone who walked in her doors, which is how the whole lunar-cowboy fad got started. By the time I came along, though, she was charging a pretty price, and although I could understand that the cost was justified because it was time-consuming to handcraft a hat using robot manipulators (with that aggravating time lag no less!), I saw no reason to waste money on something that is basically useless. Constantly being ribbed as "The Man With No Hat" made me all the more determined to remain hatless.

"We're looking for the sheriff," I said. "Is he here?"

Marlena sighed and shrugged her manipulators, and pointed a silver claw toward the end of the bar. Mesmerized by the floorshow, nursing a mini-can of lubricant, was a dirty, banged-up rover. A UN badge dangled loosely on the foreplate.

"Been there for hours," Marlena said. "All he does is mope about how he can't do anything, he doesn't have the authority. The so-called law in these parts!"

Laszlo was oblivious to our approach. I saw his laser on the floor, fallen from its holster. Lester touched the sheriff's chassis. Dusty lenses surveyed us like we were a pair of rattlesnakes.

"Pecos, Wiley," a quavering voice said.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What do you want?"

"Someone broke into our camp, Sheriff," Lester said. "They went into our lab and looked at our drilling samples. We think they plan to jump our claim."

Laszlo's claw trembled as he readjusted the tubing between chassis port and lubricant canister. Rumor had it that rover and operator alike were heavy partakers of their respective lubricants. A lot of folks thought Laszlo was a do-nothing placeholder in a figurehead job. Maybe he'd heard, and it was getting to him.

"Any idea who it was?" Laszlo asked.

"A microrover in Big Bart's gang," I replied.

"*Big Bart!*"

His radio-transmitted voice bellowed across the room. Conversations fell silent and every pair of eyes (and the single belonging to One-Eyed Jack) turned on us.

A small blurry shape darted to the entrance. It slipped through the gap beneath the doors before I could turn, but Laszlo had zoomed in.

"Oh God," he said. "That's one of his boys. We've got to get out of here—"

Laszlo hobbled from the bar, dragging the tubing and canister with him. Lester latched onto the badge.

"Sheriff," Lester said, "don't tell me you're going to run from some two-bit bully. You're the representative of a world government!"

"Sorry—wrong world!" He batted Lester away and retreated.

Lester snapped a grip on the sheriff's camera mounting and brought his lenses and the sheriff's within inches. "Listen, we have property rights under UN edict, and you have to enforce them. What do you think we pay UN licensing fees for?"

"So the UN will leave you alone," Laszlo replied. "What, you want the UN to police the Moon? It can barely police Earth!"

Lester's arms flailed up and down like that old robot on *Lost in Space*. "You've got to do something!"

"I am! I'm getting out of here before Big Bart comes—and I'd advise you to do the same!"

Too late. We all saw the lube cans jiggling from the floor vibration. Everyone turned toward the entrance. The doors flew wide and darkness blotted the sunlight, blocking the doors open.

It was so huge, it choked the entire doorframe. It was crab-shaped—with tractor tracks instead of wheels, and spikes bristling atop slabs of armor plating. Its jet-black finish gleamed beneath the chandelier. Bulging compound lenses swept the barroom. The eyes trained on the three puny rovers in the back, and glowed red.

The massive excavator machine barely cleared the ceiling of Marlena's barroom—the biggest room in Clavius Gulch—as it plowed aside tables and chairs and rolled toward us. In truth it may have been only the size of a subcompact automobile, but to our beady little robot eyes, it bulked like a main-battle tank.

The intervening prospectors scooped up lube cans and poker chips, and vamoosed. Laszlo shrank into the corner, trembling. Lester and I stood frozen.

The wall of black armor stopped, and grapefruit-sized eyes glared from a height our fully extended manipulators could not reach.

"WHAT THE HELL ARE YOU SAYING ABOUT ME?"

The grill beneath the eyes flickered with the words, which boomed with a gravely deep, electronically distorted rumble.

I had never seen Big Bart so close before. At the sides of my vision I saw the claws, and dully realized that they were big enough to snap poor little Wiley in two.

"Now, uh—Bart, Big Bart," Laszlo injected, "the boys here were only saying that someone broke into their camp, and—"

"AND THEY THINK *I* DID IT?"

Banks of blood-red running lights flickered across his plates, stroking faster and faster. If it was done for intimidation, it

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

worked.

Okay, so none of us were actually in that room, and it wasn't like Bart could send an electrical shock down our comm links and zap us. But if he smashed our uninsured rovers, Pegasus Lunar Mining Corp. would be out of business. Plus, Big Bart looks like he comes from the same planet as the alien that pops out of the guy's stomach and eats everyone but Sigourney Weaver. Experiencing *that* through a high-def VR interface is more than enough to have the hackles on your backside do stretching exercises.

"Now, now, Bart, let's calm down here." Laszlo's voice sounded like he needed to take his own advice. "I—I didn't say you did anything. And they didn't say you did anything—"

"No!" Lester shouted. "As a matter of fact, we *do* say!"

The little prospector rover's cameras tilted as far back as they could go, meeting the giant excavator's gaze.

"You sent a microrover to spy on us!" Lester said. "It left wheel prints all over our camp." Pecos lowered its lenses toward Big Bart's side compartment door. "I bet you're carrying the microrover right now!"

Big Bart stared at Lester.

The room was silent, but for a chorus of static—the electromagnetic whine of a dozen rover motors racing for the door.

Big Bart chuckled.

Then his bulging right arm swung back, a batter tensed for the swing.

"Lester!" I shouted.

The whip-fast claw smashed into Pecos. The little rover flew over the bar and shattered the mirror with a thunderous Sonic Simulation Channel crash. Shards of glass stabbed the lubrication canisters on the shelves, squirting black rain over the furniture, floor, and us. The chandelier, struck by stray debris, swung like a pendulum, rocking our shadows.

Laszlo finally broke from paralysis. He fumbled over his holster, saw the gun on the floor, and grabbed it. Big Bart intently watched—like he was curious to see whether the sheriff had the guts. To my surprise, Laszlo did.

The sheriff repeat-fired, batteries tumbling out of their chambers. A blinding flash hit Bart's left eye, another the right. The last of the single-shot battery cartridges hit the floor and electrical discharges stopped *pzzzting*, but Laszlo spasmodically kept yanking the trigger.

Visors had slipped over Big Bart's eyes the instant Laszlo started shooting. Bart snatched Laszlo's gun and the immense claws crumpled it like a tube of toothpaste. Then he pressed in, looming over the sheriff.

A graceful, delicate silver appendage chopped in between.

"What the hell have you done to my place?"

Such a small chassis, such a big transmitter! I almost tore off the earphones. Even Big Bart flinched—a little.

"No more fighting!" Marlena glared at Big Bart. "The Shopowner's Association will hear of this! If you don't want to personally haul all your parts and supplies from Earth, I suggest you leave now!"

Big Bart's battle-eyes scanned her without expression. He still had a claw raised, and Marlena lay within its swing. They stood rock still, gazes locked.

Bart's claw lowered. The big rover backed off, turned, and lumbered through the lubricant-slicked room and among the broken furniture and out the doorway, prying a door off its hinges while squeezing through.

"And this damage is going on your tab!" Marlena barked after him.

I rushed to the bar and looked over. Pecos lay upside down. All his indicator lights were dark.

"Lester," I said. "Are you all right?"

No reply. Placing Wiley on standby, I tore off my VR helmet.

His motion-feedback platform was skewed seventy degrees. Lester was sprawled on the floor of the Ops Room, his wheelchair overturned.

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Before the morning ended, we told Wendell. He was understandably upset, but didn't chide. Summoning us to the conference room, he put the company lawyer on the speakerphone. The conversation didn't go as envisioned.

"I don't understand," Wendell said. "How did *they* get to be the injured party?"

"I'm not saying they *are* the injured party," the lawyer replied. "But it is quite possible that Bartholomew Palladium Consortium will see it that way."

"Their guy hit me!" Lester blared. "There were witnesses!"

"You mean, their robot struck your robot with an appendage. They could claim it was merely an electronic malfunction."

"Can't they be held legally responsible for damages caused by malfunctions?" Lester demanded.

"What's tangible here," the lawyer continued, as if patiently lecturing a small child, "is that you made certain remarks that defame the corporate character of BPC. You publicly accused them of criminality without evidence to substantiate."

"They left wheel prints all over our camp," I said.

"Easily fabricated. And my guess is they will claim that."

Lester opened his mouth, but Wendell waved him down.

"So what is our legal game plan?" Wendell asked the speaker box.

"Wait and hope they don't file a defamation of character suit. If they do, we settle out of court."

"But we're in the right!" Lester cried.

"Lester!" Wendell paused. "Pegasus can't afford a protracted legal battle."

"Bartholomew can," added the lawyer. "They have more attorneys than Pegasus has employees. They even have a Congressional lobbyist. Face it, we're outgunned."

Lester slammed the tabletop. "This isn't right! This isn't fair!"

"If you have a *legal* course of action you'd care to suggest," said the lawyer, "I'm willing to listen."

Outside the window it was still raining, a miserable drizzle that might last days, weeks, eons.

Wendell thanked our attorney and said good-bye. Then his eyes gave us their full attention.

"Lester, the man's doing the best he can."

"Where's the justice, Wendell?"

"Justice is an intriguing concept—but what's it have to do with the law?"

When Lester said nothing, Wendell continued: "Everyone knows the legal system is a crapshoot these days. People can bankrupt you with a lawsuit over slipping on the sidewalk outside your office. Megacorporations can rob you blind and toss you in jail for complaining about them. You have to know when to play and when to fold. This is folding time."

Lester brushed back his hair. "Is this how we serve the shareholders, by giving up?"

From his pocket, Wendell produced his key chain: a glass marble with a speck of gray grit at the center. The little ball spun in the fluorescent light and twinkled rainbow sparkles like miniature stars. The curvature of the glass magnified the speck within, which glinted with hues of blue and green of an ocean that never was.

"You know what this is," Wendell said.

"Your 'Moon rock,' " Lester replied.

"Yes, I must have shown it a thousand times in a thousand investment presentations during our start-up capitalization phase." A trace of a smile passed over Wendell's lips. "I bought it when I was still in grad school, not much older than you two. The first private-enterprise lunar probe had returned from the Moon with a kilo of lunar dust. Back then, we didn't have the space gun, and lunar samples came back via expendable rocket, and the rockets and their fuel had to come from Earth—all very, very expensive. So at the time, this speck was so rare it cost me half a semester's tuition.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

But it was worth it, to me. I saw the destiny of the human race in space colonization, in spreading life to other worlds. To me, this dust particle was a seed, and it represented our first steps toward a glorious future.

"First we'd send mining robots. The profits would go to build more economical rockets, to carry bigger mining robots. Eventually, the rockets would be big enough to send human space pioneers. Then, the dream could begin."

"We've all seen your charts and trend lines," Lester said.

"My point is," Wendell said tersely, "Bartholomew Consortium is trampling my dream. The consortium exists for one purpose *only*—to keep the global palladium market from being flooded by cheap lunar palladium. Well, they tried fair competition with us entrepreneurial lunar mining companies, and they didn't succeed. They tried buyouts—and for every company they bought, two more sprang up, so that didn't succeed. They went to the government and tried to regulate us out of business, but we rallied public outrage, and they didn't succeed. They've dumped palladium and driven the market price below sustainable levels, but we're still in business, barely, and so they're still not successful. So now they're going broke themselves, and they're desperate.

"They'll do anything to shut down the Moon. They don't care if it means the end of the Space Age and the last, best hope of mankind to get off this planet. I can't fathom their materialism and greed, but there it is.

"So I'm no apologist for Bartholomew, Lester. I just want you to trust that I'm doing all that can be done to preserve a dream that is sacred to both of us."

I squirmed in my chair. Wendell, forty-ish, flabby, and balding, still had the power to convey his vision of teleoperated robots leading to real human space colonization—and to make space colonization seem the most important achievement the human race would ever accomplish. He had charmed megabucks out of hard-nosed investors, and he had charmed me out of a career in corporate finance to come drive a toy robot around an airless desert. At that moment, caught between Wendell the Evangelist and Lester the Zealot, part of me wanted to walk out the door and never come back—before their insanity infected my heart and soul again. I didn't need to worry about humanity's fate just then. I needed to worry about the fate of my phone bill.

Lester looked at Wendell for a long time. Then he shook his head. "I'm not sure I can trust you on that, Wendell."

Wrong thing to say, I thought, watching Wendell suppress a frown.

"All right then," Wendell said, slapping the table a little too hard. "But I'm in charge and we'll do it my way. Get your robot repaired—and you *will* steer clear of BPC from now on. In particular, stay away from that excavator unit of theirs. All right?"

After a skimpy lunch, I slipped on the VR helmet and returned to Wiley, still parked in the saloon. The lubricant had been mopped up and the furniture moved back in place. A metal plate barricaded the street entrance. The barroom was deserted.

"Marlena?" I called.

"In here!"

The Sonic Simulation Channel made it sound like her voice was coming from the doorway at the end of the bar. I rolled into a back room. Pecos, still inert, was righted on a bench, his slightly rumpled sombrero fastened in place. His left side was marred by a dent and scrapes. His access panel was open, and a rover wearing a black bowler hat was poking around my partner's innards. Marlena hovered nearby, and nodded to me.

She gestured to the rover with the bowler. "You know Doc."

I scanned Lester's rover. "How is he, Doc?"

"Seen better," Doc replied. He reached

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

into his little black bag, extracted a soldering iron, and probed the hole in Pecos. "He'll make it, though. He's got an alignment problem in his number three wheel axis, and to fix that I'll need him on the rack at my place."

I shook Wiley's head. "We can't afford major repairs. We'll just have to live with it."

Doc withdrew the iron tip. "Maybe, before we go any further, we should discuss the small matter of payment for this call—"

Before I could speak, Marlena intervened: "I'll cover it. Just get this rover out of here, Doc. Dead patrons are bad for business."

Doc went back to work, with two spectators now. Finally, my conscience won over my annoyance, and I said, "Thanks, Marlena. I appreciate this, and I know Lester does especially."

" '*Especially,*' " she said. "You said that because he's in a wheelchair."

My unseen face reddened. "Yeah."

"Well, I suppose we all have our limitations, to be playing with puppets on the Moon instead of dealing with real people on Earth."

"I'm incredibly ugly," I joked (I hope). "That's my limitation. What's yours?"

"I'm four foot one."

It took me a moment to realize she didn't mean her rover's dimensions.

"Not that it's really a handicap like what Lester has," she continued. "I can walk just fine. My car is modified so I can drive it. I never feel cramped in an airline seat."

I smiled, and wished she could see it.

"But," she continued, her mechanical arms hinting at a shrug, "it's hard to be taken seriously when you're standing in a nineteen inch hole."

For a brief moment, I thought I understood her at last. But when I thought further about it, she still didn't make sense. . . .

"So now that you're taken seriously," I said, "you want everyone's robot to wear a cowboy hat?"

She laughed. "Brian, sometimes having fun is the most serious thing you can do."

"There," Doc said. "That should do it." He nudged in a circuit card, and Pecos's indicator lights blinked on.

"Hey!" Lester's voice exclaimed. The response was immediate; he'd been sitting at his workstation, attempting to reestablish a comm link from his end. "I'm back!"

"I saw how hard you hit that mirror, and you're very lucky," Doc replied, snapping his bag shut. "If you can't afford my repair bills, I'd advise you not to get into any more fights."

He tipped his hat to Marlena and bade us good day, and she let him out through the back door. Then it was just the three of us.

"Lester, what were you thinking?" I demanded.

"Well, I didn't think he'd attack me in front of the sheriff."

"He would have torn the sheriff apart, too, if Marlena hadn't stepped in."

"I doubt I stopped him for long," Marlena said. "Characters like Big Bart don't sit well with backing down from confrontations."

"So what can we do?" I asked. "The law won't help."

"Earth law, you mean," Marlena said. "We have to make our own law here."

"Yeah," said Lester. "Get a posse, and round up Big Bart and his whole gang!"

He's become a parrot, I thought. '*Get a posse, awk, awk, get a posse!*'

"A posse isn't enough," Marlena replied. "UN jurisdiction courts would probably refuse to hear the case—or they'd let Bartholomew loose on a technicality." Her lenses zoomed on infinity. "What we need here is a revolution."

Napoleon Complex, I reflexively thought.

"What do you mean?" Lester asked. "How do we declare independence from Earth when we're still physically living there?"

"I'm not saying we declare indepen-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dence. I'm saying we set up a vigilante committee to mete out frontier justice."

I scratched the top of Wiley's casing. "Vigilante, frontier justice . . . why don't I feel comfortable with those terms?"

"Because," Marlena said, "you associate them with ignorant, dangerous rednecks. But those are precisely the kind of people that vigilante committees were formed to protect the public *from*. In the Old West, when a town government got too corrupt and ineffectual, the people would hold a meeting and elect new law enforcement officials. Well, we need to do the same. If we conduct this right, it'll be Jeffersonian democracy in action."

She sounded like a history buff. Maybe Napoleon would have met his match in Marlena. I know I was beginning to feel overwhelmed.

"Jeffersonian democracy," I said. "Is that your next fad? Tell me, what would Thomas Jefferson think of teleoperated robots on the Moon?"

"He'd know," Marlena calmly replied, "that you can't adjudicate bar brawls from a courtroom a quarter million miles away."

I'm certainly no history buff, and for all I knew, she was spinning this political-science discourse from thin air. And maybe she could get the rest of the town to buy into her brand of frontier justice, just like she had them going along with the silly hats and the hokey slang.

But as for me, I had a flash of practical insight that cut through the philosophical crud: like everything else that had happened today, this conversation wasn't paying the rent.

"We're in enough trouble without getting crucified as rebels," I said. To Lester, I added: "Come on, 'pardner,' I 'reckon' it's about time we 'mosey' on back to camp."

Marlena made a noise that sounded like a growl. I don't think it was electronic distortion.

We had to stop and wait outside the saloon. It was the top of the hour, and the space gun, in horizontal configuration, fired a test shell down the length of Main Street at the Calibration Target Monolith on the edge of town. Despite the wait, neither of us said anything. When the all-clear bell sounded, traffic resumed, and we steered up Cemetery Hill Drive with the Sun in our eyes. Pecos, limping from the warp in his wheel axis, kept pace as we passed the city limits and rejoined the camp trail.

"You think she's wrong," Lester said. "About the revolution thing."

"Let's put this in perspective," I said. "We're robots the size of poodles. That's on the Moon. On Earth, it's worse. We're entry-level employees in a faltering start-up venture. We're not in a position to start a revolution. The way it looks to me, Marlena's solution to a failed historical-fantasy is to retreat back in time another century. So instead of the Wild West in 1876, it's now the American Revolution in 1776. Hang around long enough, and she'll have us quoting Shakespeare and wearing codpieces. But all her fantasies have done is get your rover busted up."

He didn't speak for the rest of the trip. Maybe, for that brief spell, I was getting through. Then we reached the last hill.

And saw fresh wheel prints. *Big* prints.

"*He's been here*," Lester croaked.

Spinning dust, he charged up the hill. I followed as fast as I could. At the top, we skidded to a halt and beheld the camp. Or what remained of it.

Lester broke the silence: "No! No! No!"

We raced down. A hurricane had descended upon the Moon: tents flattened, tanks punctured, the analyzer smashed, the drill rig missing, pipes bent, solar panels cracked. And everywhere those hideous huge prints—of tractor tracks, not wheels.

"No! No! No!" Pecos pounded the ground, gouging new craters.

"We're out of business," I mumbled.

Not next month, not next week. Pega-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sus Lunar Mining was for all practical intents and purposes out of business as of that very moment. Our working assets were destroyed and we had no insurance to cover the damage. Who needs insurance on the Moon? No floods, no fires, no storms, a major moonquake is a minor earthquake—and significant meteor impacts happen once a millennium. Vandalism and theft? The Moon has only ladies and gentlemen . . . right?

Pecos scanned the dust for solar ionization build-up, which detects how recently regolith has been exposed to sunlight. "These wheel prints are fresh. If we go right now, we might be able to catch them."

Instead of immediately following the prints, however, Lester grabbed a shovel, rolled over to an outcropping of rocks, and started digging.

"What are you doing?" I asked.

"Getting really tired of Big Bart," came the reply.

He dropped the shovel and reached into the hole, withdrawing a metal pipe with a bulge at one end—and a trigger in the middle.

"What *is* that?" I asked.

"Guess."

"Lester!"

"Brian, it's my own property. I bought it from the blacksmith, with what I made helping at the spaceport after hours. So it's mine and I'm going to use it."

Company management surely wouldn't appreciate Lester moonlighting (or would you call it earthlighting?) at the spaceport with its rover, but before I could lecture, Pecos bolted off, hot on the trail.

"You're acting crazy!"

"Tell me what we've got to lose!"

I chased over hills, valleys, and plains of chalky lunar dust. Big Bart's prints wound back into Clavius Gulch. Lester barreled down Cemetery Hill Drive onto Main Street, waving his weapon above his sombrero, and the rovers scattered. He stopped and looked around. The street was deserted, the Sonic Simulation Channel dead quiet. The late afternoon Sun cast steep, black shadows. I half expected a tumbleweed to roll by.

"Bart!" Lester shouted over the SSC. "Come out here, Bart!"

He launched into a string of profanities, using every entry in the modern database. We might have been the only rovers in town for all the reaction. Lester exhausted his vocabulary and breathed hard. I thought he was done.

Then, he bellowed throatily:

"Big Bart—you low-down, good-for-nothing cowardly jackass! You're nothing but a snake. You hear me, Big Bart? You hear me? Nothing but a filthy, yellow-bellied, stinking snake!"

I wondered what Lester was doing—until I realized that Big Bart, like me, didn't wear a cowboy hat. Lester was assuming that the robot's teleoperator found "Old West lingo" as grating as I did.

Lester continued: "And you know what else, Big Bart? You're *worse* than a snake. You're a . . . a . . . *varmint*!"

Light beams flashed, from the intersection two blocks ahead.

A hulking black crab on tank tracks trundled onto Main and confronted us, headlamps blazing and claws snapping. It stampeded toward Lester. Feeling my courage melt, I retreated to an alley. Lester remained dead center in the street.

"*Yeeeee-haaaw*!" he yelled.

He aimed his gun and pulled the trigger. The pipe tip puffed—and a spark flew off Big Bart's hide. The crab kept charging. Lester fired again, and again.

Bart closed within fifty feet, thirty, twenty. He abruptly stopped. He remained still, while sparks glanced off his armor and Lester ran out of bullets.

Centered above Big Bart's eyes, a circular door opened in the Neanderthal forehead. A barrel ten times the caliber in Lester's claw emerged. It tilted down to point straight at Lester's rover. It spat flame.

Pecos exploded.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Rover fragments and sombrero shreds rained upon the street. Before Big Bart turned, I hightailed out of there.

That afternoon on our slice of Earth, Wendell invited Lester and me into the conference room once more. Pegasus Lunar Mining's chief executive officer listened quietly as Lester and I described the events since our last meeting. He didn't frown or shout, he didn't run about. He doodled circles on his scratch pad and asked questions in monotone. After our answers, he'd nod, the only indication he was listening.

Lester concluded our tale, and Wendell doodled in silence, the circles in tighter coils. It was rush hour, and traffic noises rumbled through the windows. A car belonging to someone in the neighboring insurance office splashed through puddles in the parking lot, the sound of someone with a real job going home to a real life. I felt a chill around my ankles from a draft, and wondered why the thermostat was turned so low.

Then Wendell dropped the bomb and everything heated up.

"I'm sorry, Lester," Wendell said. "We'll have to let you go."

"What?" I cried. "It's not his fault our camp was destroyed!"

"Lester twice provoked BPC," Wendell said. "And the second time was in direct disobedience to my instructions. Regardless of whose fault it is, we've lost millions of dollars in irreplaceable assets from the incidents. I cannot go back to investors and ask for more funding without them asking if this is going to happen again. They'll want disciplinary action."

He slashed an X through the circles, his only show of emotion.

He raised blank eyes to Lester and said, "Lester, clean out your desk. I want you out of here today. You'll receive two weeks' severance, of course."

I almost laughed. Did you have to quit to get paid around here?

Lester's face, though, quenched any humor. He backed away from the table, turned, and rolled out the door without a word. I followed him to the office spaces, reduced since the last downsizing to just my desk and his. He was already at his desk, yanking out the drawers and stuffing his personal items into a cardboard box. There was surprisingly little, for someone who almost lived at work.

"You . . . want to go somewhere . . . and talk?"

"Let me think this through on my own, first."

"Will you be all right?"

"No."

"Let's talk later, okay?"

He never returned my gaze. He put on his jacket and gloves, and rolled toward the door with the box in his lap. Outside, he erected his umbrella. I watched him roll down the ramp, elevate into his van, and drive off without signaling to merge onto the busy arterial. I stood at the receptionist's desk and felt my stomach churning.

Lester had been fired for insubordination. If I kept my nose clean, I might last a month more until the company acknowledged financial reality and closed doors, and as a parting gift I'd receive a glowing reference for another lunar prospector teleoperations job at another lunar mining company. Only, Big Bart was making sure there weren't any more jobs or companies like that.

What *did* we have to lose?

After dinner, I tried calling Lester. He didn't answer. I wandered in the local library and the shopping mall, and then I drove by the office.

It was funny: after so many months of wishing for free time, that evening I felt like there was nowhere else I wanted to go.

The lights were out and the door was locked, but I had a key (Wendell often referred to me as "The Responsible One"). I sat in my cubicle chair and swiveled around, looking at the space posters on

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the walls and thinking about how all these landscapes photographed by robot eyes might never be seen by human ones. It was as if we said, *Space is too tough for us*, and we surrendered exploration of the universe to the robots.

Now it was as if we were deciding it was too tough for the robots, too. Though in this case, we humans had brought the menacing monster along with us from Earth—where we ourselves had constructed it. *The fault lies not in the stars* . . . indeed, our flaws as a species could well keep us from the stars.

Out of habit, I clicked on my desk computer. I checked my e-mail. It turned out I had one message.

A few minutes later, Wiley the prospector returned to Clavius Gulch and headed straight to Marlena's.

A new sign on the door read: BARROOM CLOSED FOR TOWN MEETING. A security camera visually frisked me and a rabbit hole in the metal plate opened long enough for Wiley to pass through.

Marlena had e-mailed others, too. The barroom burgeoned with rovers, some sporting new foil insulation and others, like Wiley and the deceased Pecos, dented and dusty with experience. Sheriff Laszlo wasn't apparent, and neither was Big Bart, Inc.

I had arrived just in time, or maybe she was waiting for me. As soon as I took a place near the back, Marlena ascended to the stage and peered over the hats and lenses. SSC chatter died.

"All right," she said. "You know why we're here. The UN claims legal jurisdiction over the Moon, but isn't protecting citizens' interests. If we want justice, we have to get it ourselves. We're going to establish a citizen's tribunal. And, as our first order of business, we'll bring Big Bart before it for all his crimes against *us* and *our* rights."

The crowd betrayed no emotion. I wondered why they were there. Me, I was curious to see how Marlena intended to pull this off.

"As I mentioned in my e-mail," she continued, "Pecos and Wiley here—" she waved a claw at me "—had their camp trespassed and destroyed by Big Bart's gang." She paused. "Pecos also was destroyed."

There was shifting in the crowd, and some murmurs.

"We all know that Big Bart is simply a machine operated by Bartholomew Palladium Consortium. A lot of you are afraid to tangle with BPC, which sometimes seems as powerful as any earthside government. So you're lying low, hoping to survive by not being noticed. But if we let them get away with destroying one of us, they'll eventually destroy all of us. Their business model isn't based on marketing warfare, it's based on *total* warfare—and it's not based on cutthroat capitalism, it's based on cutthroat *criminalism*. So like Benjamin Franklin said, we either hang together—or hang separately."

After a sustained silence, someone raised a claw. "What do you propose?"

"Elect a new sheriff, deputize a posse, arrest Big Bart," Marlena said. "We'll bring him back here and give him a fair trial by a jury of his peers—that'll be us. It'll be just like a court trial on Earth—except with common sense."

Another claw went up. "What about Laszlo?"

"He hasn't stopped Big Bart," Marlena said. "Why should he stop us?"

The crowd got restless, swaying like waves in a choppy sea. From somewhere in the middle someone yelled: "Forget this trial stuff! String him up!"

Several voices yelled that—but then a huge blue claw, twice as big as a regular rover's, shot up from the corner. Into the center rolled Iron Babe, the second biggest rover on the Moon.

"I'm no match for Big Bart," he said. "I don't think all of us put together are. So how do we overpower him?"

"I've got that covered," Marlena replied. "But I'd like to keep it a surprise."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Iron Babe's turret revolved. "In other words, you're afraid there's a spy here."

The word "spy" sent a visible shock through the crowd. Someone headed toward the door and I heard a low voice say, "I just remembered, I have some drilling to do."

That started a general migration toward the door and it looked like the meeting was over. Marlena hadn't pulled it off after all. I hadn't expected her to, but in a way I was disappointed.

But before the meeting fizzled into nothingness, a small dust-caked rover limped forward to take the area before the stage. I recognized the primitive box-like structure and rumpled brown hat at once.

It was Old Charlie, one of the first prospectors at Clavius, a legend who had been scratching the lunar surface before most of us were a gleam in a CAD/CAM data file.

The bull sessions at Marlena's Place were rife with tall tales about just how antiquated Old Charlie was: that he had originally been built to prospect for *gold*—that his CPU was a Z80 chip—that he had helped Armstrong and Aldrin collect rocks—and had waved when Apollo 8 flew over.

If anyone had more influence over lunar prospectors than Laszlo, Marlena, or Iron Babe, it was the Ancient One himself, who had dwelt at the dawn of lunar prospecting. If Old Charlie was not in truth The One Who Had Started It All, he had at least rubbed shoulders with the guy.

The sense of history descended upon us, and the room immediately hushed, and we waited for the reedy, quavering voice that we had all heard so rarely yet knew so well.

"About a month ago . . ." Old Charlie began.

Then he paused, and we waited. Finally, he reboarded his train of thought, and started again:

"About a month ago . . . I found a shard from the Clavius Impact Object. I spent a full week chiseling out twelve kilos of near-pure palladium ore, enough for a shell load and then some. Then, two blocks from the space gun—right there at the corner of Aldrin and Main in broad earthlight—somebody flips me and takes my bag. The prints were swept up, but I'll never forget the shadow behind me! It was . . . *Big Bart!* He and his gang left me so beat up, half my solar batteries don't work no more!"

The crowd murmured. The onslaught to the door had been checked. Marlena's eyes turned to me, and her camera mounting dipped once, a most satisfied nod indeed.

Lenses zoomed as another robot rolled forward. I recognized Chester from the scraggly beard of plastic strips glued to his undercarriage.

"Somebody went into my camp, too," Chester said. "Stole my microscope. Stole my spectrometer. The security cam caught one of Bart's gang dead to rights, but the UN's just sitting on it. You all know how much it costs to ship replacement equipment from Earth—and how do I know that won't be swiped too?"

Rovers retreated from the door and clustered near the stage. And more came forward to speak their piece.

Diamond Jim: "Bart's boys have been pawing over my survey site for months now."

Fuzzy 2: "Big Bart smashed Fuzzy 1 into a hundred pieces!"

Little Al: "My claim's registered—but Bart mines it anyhow."

Then the voices ran together: "Yeah!" "Same thing here!" "Me too!" "We can't stand for this any longer!" "If we fight, what have we got to lose?"

"So who's in the posse?" Marlena shouted above the tumult.

The crowd abruptly fell still and silent.

And then—with a massive wave, all at once—manipulators sprouted, a field of mechanical grass whipping in a stiff breeze of political agitation. They all cheered, including me. And for a moment it looked like Marlena was going to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

have her revolution after all.

Then we felt the floor vibrate.

We turned to the front. The wall rattled visibly and dents popped in the door plate like a bad case of pimples. The Sonic Simulation Channel's pattern-recognition software detected the motion and translated it into the most chilling sound effect I'd ever heard: *Clang . . . clang . . . CLANG!* The whole building shook like it was about to collapse—and then the plate blocking the front door fell inward and slammed into the floor.

The immense crab clogged the doorway. A nebula with two bloody, glaring stars eclipsed the sunlight. The silhouette moved toward us. The doorframe caught against the spikes. A claw thrashed and the doorway widened. Big Bart rolled inside and surveyed the scene.

"WHAT THE HELL IS THIS ABOUT?"

Marlena didn't miss a beat. She rolled to the front of the stage and glared back at Bart. "We're bringing you to justice, that's what!"

The rovers advanced an inch. The excavator didn't move, and from my position, I had an excellent opportunity to compare relative sizes. Iron Babe was right: Big Bart was just about as large as all the others put together. It was obvious: he hadn't been designed for excavation so much as extermination.

After that first brave inch, the rovers hesitated.

"YOU WANT TO SEE WHAT HAPPENS TO PEOPLE WHO GET IN MY WAY?"

Big Bart reached behind him, through the hole that had been a doorway. He flung a foil-covered object at the chandelier—which shattered into a blizzard of glass. The object clung to the fixture, long enough for us to recognize that it was a rover with chassis mangled, wheels and limbs missing, and lenses cracked. Then I saw the blue star dangling beneath the registry label. It was Sheriff Laszlo.

Laszlo slipped off the chandelier and fell in the slow motion of lunar gravity to the floor.

"NOW WHO WANTS TO BE NEXT?"

Marlena rolled to the end of the stage and took the ramp down to the floor. The rovers cleared a path. She rolled right up to Bart and jabbed a claw at his face.

"You don't scare us, Bart! We—"

"MARLENA THE MIDGET! HA HA HA!"

Marlena's manipulator arms drew back for the punch. Bart shadowed her with his claw, and it looked like she was two seconds from becoming metal pizza. But then he had a more ignoble idea.

"WHAT THE HELL! I'LL USE YOU AS SPARE PARTS!"

The claw plucked Marlena off the floor like a doily, and Big Bart, seeing that his work was done, backed out onto the street.

"THE REST OF YOU . . . I DON'T WANT ANY TROUBLE FROM THE REST OF YOU!"

With Marlena struggling helplessly and calling him names that had nothing to do with the Old West, Bart rolled out of sight and the sound of his motor died away.

The rovers scattered and the saloon emptied. I was alone with what was left of the United Nations enforcement representative's rover. I looked at all the damage—the entry, the chandelier, the debris, the broken rover—and wondered if this was a warm-up act for Big Bart to raze the whole town. He apparently had overcome his fear of the Clavius Gulch Shopowner's Association—not to mention the United Nations. Maybe his masters figured that once he brought lunar mining to a halt, their consortium's stranglehold on terrestrial palladium production would keep political trouble at bay.

"Wiley!"

The voice creaked and was barely audible, but I heard it and directionalized it from the sheriff's broken body. I rolled alongside. A cracked eye regarded me.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"This is what I get," Laszlo said, his voice faint and wheezing with static. "After I heard what he did to your partner, I tried to stop Big Bart. I really did."

"I'm—I'm sorry," I said.

"It's up to you now. You've got to stop him, Wiley."

"What can I do? He's an international corporation and I'm just one person. If the UN can't handle him, how can I?"

"Wiley, he destroyed your own partner!" The sheriff attempted to rise on the stump of his right arm. "If I could overcome my fear, you can too!"

"I'm—I'm not afraid." I lied, and then I thought of a further lie: "Sheriff, look—if there were someone here to help me, if I only knew what to do, I'd do it!"

The rover's manipulator arm slipped out from under its body and the sheriff crashed on the floor. The indicator lights died, and so did the law on the Moon. Or so I thought.

While I rested alone in the cavernlike saloon, my workstation phone chimed. I routinely redirect my cell phone number into the VR equipment's phone system, and had done so that night because I was hoping Lester would call. But it wasn't Lester.

It was Marlena.

My searchbeam played across the tombstones on Cemetery Hill: Rusty, Dexter, Ruby, Fuzzy 1, Calamity Jane, Deadeye . . . and Marlena 1. Opening the gate, I entered the town graveyard of obsolete rovers. I rolled over to the last marker, dragging a shovel behind me.

"I'm there," I said over the cell phone connection.

"Finally!" Marlena sighed. "Start digging!"

I did. Then I noticed the epitaph on the tombstone: "'Here lies Marlena One. She was small—but waren't she fun?' *Waren't?*"

"I didn't write that. It was a contest."

It wasn't just for macabre humor that old robots were buried on the Moon. Having them around meant the "corpses" could be exhumed for spare parts. Keeping them buried the rest of the time protected those potential spare parts from the temperature and radiation extremes of the lunar surface. So there was a practical reason for the underground junkyard. But calling it "Cemetery Hill," erecting tombstones, carving epitaphs—those touches witnessed to Marlena's whimsy at work once again.

While I dug, I shook both my heads, human and robotic. "So the Marlena the Robot that I've always known and loved wasn't the original."

"Nope," Marlena the Human replied. "She's actually Marlena Number Two. Marlena Number One was the robot I drove back in my prospecting days before I opened the saloon. A little before your time."

Mercifully short of the traditional "six feet under," the shovel bit metal. I scraped away the remaining dust and rocks with my claws. The box was the size of a violin case, and shaped like a coffin. I pried open the lid. Inside lay a tiny rover. It had a single eye and a single claw, and was as gray and lifeless as the Moon.

"I can see why you upgraded," I said. I replaced the old batteries with fresh ones from Marlena's inventory. "Power's on. See if you can link."

"Should be able to. I'm transmitting the old access codes . . . hey!"

Indicator lights flickered on. The rover in the coffin raised a gnarled, bony claw. Skinny and decrepit, it certainly looked like the limb of a zombie.

The camera eye swiveled on Wiley.

"Well, get me out of here!" she demanded.

The other parts looked badly worn, but her tongue was as sharp as ever.

I pulled her out of the grave, dented antenna and all, and we rolled off Cemetery Hill to the saloon. Entering through the damaged doorway, Marlena took a long look in silence over the remains of her enterprise. Then we rolled to the back room, and she entered a closet.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I stopped at the threshold and waited. A moment later, she returned, towing a cord. The cord drew a wagon. On the wagon was a cannon.

"You've got to be kidding!" I said.

Yes, a miniature cannon, like the ones people mount on yachts to fire blank charges, usually after they've had a few drinks—except this ornament was dull iron instead of polished brass, and Marlena was cold sober.

"Bob the Blacksmith forged it for me," Marlena said to my inquiring stare.

"Has it been tested?"

"Of course. It's punched through quarter-inch steel plate!"

"How thick is Big Bart's armor?"

She patted the barrel. "We'll find out."

"And you want *me* to fire this thing at him?"

"I wasn't expecting you to be the hero, Brian. I'll handle it from here. I appreciate your help."

Our two dumb machines just stared at each other. Finally, I realized I was an unwanted guest, and went out the front way.

A few feet outside the saloon, I looked southwest and saw the space gun, pointing toward me like a giant, accusing finger. I turned and looked northeast, and saw the Earth, framed by the building fronts bordering Main Street.

Seen from Clavius, the Earth appears to hover in a fixed position, seemingly swollen by its proximity to the horizon, the same optical illusion that makes the newly risen Moon seem huge over the horizons of Earth. But all one has to do is extend one's claw and compare it to the globe, and the Earth seems small once more.

I thought about Wendell's vision of spreading life throughout the universe. If the Earth is one life-bearing planet among millions, then fine, we can afford to stay home and contemplate our navels. But it's scientifically legitimate to postulate that life is unique to Earth. Maybe meteorites have transported life across Solar-System distances to Mars, but that would be about it. As far as the stars are concerned, the evidence—or lack thereof—seems to point toward lifelessness.

I still think it's a stretch to conclude that humanity's fate—and the fate of all life in the universe—depends on the economic viability of lunar mining. But what if it was true? It was a terrible burden that Marlena was bearing on her shoulders, all by herself, especially with that rickety old robot as her only avatar.

What did she mean, *I wasn't expecting you to be the hero*?

I decided I was going to talk to her about that. Mind you, I wasn't going to volunteer for anything—I was just going to challenge her temerity about that hero business. Where did she get off, saying what I could and couldn't be?

I returned to the saloon. In the darkness, a bright spot caught the corner of my eye. I swiveled my camera mounting and saw the shelves with the hats, the cowboy hats that Marlena made and sold as part of her Old West fantasy. It was a white one that I'd seen. *White*: the cliché about "the good guys always wear white hats" came to mind. I shook my head. If I could help it, I would avoid Western visual clichés just as much as verbal ones.

I looked over the selection, and laid my claws on a dark brown number. I picked it up. I lowered it on my camera mounting. I rolled over to the mirror. Not exactly Clint Eastwood, but—I tilted it forward a rakish skosh. There. Now *that* was Clint Eastwood.

"You're still here?"

She had caught me totally by surprise. I turned around and pulled off the hat.

"I left and came back," I replied.

"The hat looks good on you."

She didn't see me purse my lips.

"You know," I said, "you have no business telling me I can't be a hero. It's not that I'm going to be a hero, but you have *no* business telling me that I can't be one."

"Okay. . . ."

"And I thought I could give you some

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

advice. No help—I want to make that *absolutely* clear—just advice."

"Okay. . . ."

"For one thing, that gun isn't going to work. Not by itself. If you're going to defeat Big Bart, you'll have to do better than a pop gun."

"Okay. . . ."

Well, as you can see, she was just playing out the line . . . before she reeled me in.

"Are you sure you want to do this?" Marlena asked about half an hour later. "You know, if you lose Wiley, you could get in trouble with your company—not to mention what kind of trouble you'll be in with BPC."

Typical female, I thought. *Talks you into something, then tries to make it sound like it was your idea!*

"Don't give me any more reasons to be afraid," I said. "I already have enough of those."

Marlena was not in sight, and not in the Sonic Simulation Channel's conversational range. We kept in contact over the phone connection. I had left her near the saloon and had taken off down the street, a cowboy hat on my camera mounting and her wagon and cannon in tow, on a search-and-destroy mission for Big Bart.

Every cross street and alley I passed, I held my breath, but the giant claw never reached out and grabbed me. Looming shadows did not appear, and every corner proved without surprise.

Then—voices ahead.

I pulled the wagon into an alley, dropped the tow cord, and rolled ahead on my own. At the corner, I cautiously peered down the street.

It was Big Bart and his gang—seven robots in all, most of them my size or bigger. They swaggered down the street, whooping and yelling, carefree as could be. They halted and Bart set a bag down, and pulled out Marlena 2, belly up and deactivated. A rover approached with a very large screwdriver, and the others made ribald comments. I got the symbolism and didn't like it one bit.

"Big Bart!" I shouted, rolling into the open so that he could see my hat.

Bart and his cohorts turned. The rover with the screwdriver lowered it.

"What in *tarnation?*" I shouted. "It's the biggest *varmint* I've ever seen!"

The robots looked to their leader, but he was just standing still.

"Yep, Big Bart," I said. "Ah reckon you ain't nothin' but a slimy ol' *rattlesnake*!"

He swung toward me and lunged a foot—but halted. He waved a claw and chuckled.

"GET LOST, PIPSQUEAK!"

The rover holding the screwdriver raised it again, and the rest gathered around Marlena's prone body again, and the laughter resumed. So I went to Plan B.

Out of my carrying compartment, I drew Lester's gun. As I cradled it in my claws, I realized that this was it—I was about to incur the wrath of one of the biggest corporations on Planet Earth, and there would be no turning back. But then, there had been no turning back from the moment their spy had snuck into our lab tent. What happened now was simply inevitable fallout.

Their backsides were studiously turned toward me, but my spirit of fair play was at an all-time low. I took aim at the character with the screwdriver, pulled the trigger and made a little crater in the street next to his left rear wheel. The others still laughed and joked about Marlena—but *he* noticed. His camera mounting turned.

I compensated my aim a tweak—and then I made a little crater in *him*.

Sparks spat from the puncture in the rover's side. He jerked to a halt, his lights extinguished, his manipulator arms went limp, and the screwdriver tumbled out of his claws.

The laughter and jokes died. The gang turned around as a unit.

Wasting no time, I shot another, and another—and half Big Bart's gang was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gone. The survivors scurried behind their boss—who glared straight at me. I emptied the pistol, but it was useless against him. I tossed it away and scrammed back towards the alley.

The dark crab's "third eye" opened, and out came the barrel. I passed around the corner before it fired. The shell blew through the building walls, inches from where I'd been.

I passed Marlena's wagon twenty feet from the alley mouth. I got behind the cannon and looked back. In the gap between shattered walls, Bart's headlamps gleamed upon the street dust. The ground trembled beneath my wheels.

I raised one claw to the cannon's firing switch, and the hardest part was waiting.

Bart turned the corner. I pressed the switch. The cannon flashed and recoiled. A tracer ball streaked toward where Bart's heart would be, if he had one. It was a direct hit.

The ball bounced off, leaving only a small dent.

Bart staggered, but that was all. He roared, and he and his entourage charged. I abandoned the cannon just as a retaliatory shell blasted it to bits. The remains of the cannon and wagon must have slowed Bart down while he crunched them under his tank tracks, but I didn't look back. I swerved around the next corner, raced down the street, and swung into another alley.

"Marlena!" I called. Our terrestrial phone link was clear as a bell, but still I shouted breathlessly. "They're chasing me! Get ready!"

"I'm ready!" she shouted back.

Headlamps flashed my long shadow in front of me. I broke out of the alley and rolled down Gold Street. I zigged and zagged, and Bart's shells missed, his aim crippled by the three-second Einsteinian delay in Newton's Third Law.

An intersection came up. I veered right.

"I'm on Armstrong Avenue!"

"Is he behind you?"

He wasn't. I might have lost him. I stopped in the middle and waited. In a flash, Bart and his gang swung past the corner, and bore down. I spun my wheels and hurled toward the next intersection.

"Coming up on Main!" A shell splattered Wiley's hide with dust. "Get ready!"

Heading southeast, I crossed Main and looked on my left at the saloon. Farther down, Marlena waved a bandanna. The distraction was almost fatal. A shell hit near my wheels. A rotor status bar flashed red and an rpm reading dropped to zero. I steered right to compensate. I sprinted past Main, hid behind an alley corner, and peered out. Bart and his gang were crossing the intersection.

This is it, I thought. But nothing happened. He passed the intersection unharmed, and I retracted into the alley just in time to dodge another shell.

"*Marlena!* You were supposed to shoot!"

"I would have missed!" she cried. "It's the time delay!"

"What do you want me to do—move the Earth closer? You have to lead the target!"

"Well, how the hell am I supposed to do that, Brian?" she snapped. "By the time I see him clear the buildings on the right, he's already through the intersection and behind the buildings on the left. How do I lead a target I can't even see until it's too late?"

The best laid plans of mice and microrovers. The plan made sense in the saloon half an hour ago. With the enemy engaged, it unraveled with the speed of light.

"Brian," she said. "The only way we can do this is if you bring him back to Main—and keep him there!"

"I can bring him back to Main—but *how* am I supposed to keep him there?"

She didn't answer, but I didn't have to ask. I knew what she was thinking. I'd been the lure this far, and now I'd have to hop inside the fish's mouth.

"Bye-bye, Wiley," I murmured. "Nice

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

knowing you—hope they don't take you out of my severance pay!"

I ducked up Tsiolkovsky Street, heading northeast. Bart's lights outlined my shadow. My spine chilled. He was less than thirty yards behind, and closing. My shadow shortened. I felt his breath.

I weaved between his shells. A rover pulled alongside Wiley and bumped him. A blur streaked overhead and disintegrated a wall.

I reached Aldrin Avenue. I turned right.

"On Aldrin!" I shouted. "Heading toward Main!"

It was not a good time for my low-charge indicator to blink.

I reached the intersection of Aldrin and Main. I stopped. The assailant rover flew past. I turned northeast, toward Earth, and rolled a few yards, and stopped again. I waited.

Big Bart stampeded into the intersection. He saw me and skidded to a stop. The leviathan turned toward me.

"Get him to move a little to the west!" Marlena shouted.

The forehead cannon flashed and dust spewed over my rover. I backed up, rolled around the newly dug crater, and moved west. Bart fired again, and missed. He gave up shooting then, raised his claws and closed in. I backed up—but then bumped into something.

Bart's accomplices formed a semicircle, hemming me in. One rover clamped a claw on my antenna, and another grabbed my towing ring, and I couldn't break free. Big Bart loomed over Wiley's struggling body, and raised his claw, poised to piledrive.

Marlena, he's in position! I thought. *Go ahead and do it!*

"POOR OLD WILEY," Big Bart boomed. "YOU WERE THE ONLY ONE I RESPECTED, BECAUSE YOU DIDN'T GO ALONG WITH ALL THAT COWBOY CRAP. BUT NOW SHE'S GOT YOU WEARING A HAT, TOO."

"Yep," I said. My brain had frozen and I didn't know what else to say.

Marlena—do it!

"THAT WAS CLEVER, THE WAY YOU LED ME INTO THE ALLEY TO SHOOT ME WITH THAT CANNON. BUT YOU KNOW WHAT? YOU NEEDED A BIGGER GUN."

"Yep," I said.

Marlena! Do it! Do it! Do it!

"TROUBLE IS, THERE ISN'T A GUN BIG ENOUGH TO SCARE ME ANYWHERE ON—"

Big Bart hesitated, and looked at the Earth—and I think he figured it out.

A second and a half too late.

"Yep," I said.

Marlena—SHOOT, damn it!

And she did.

The ten-kilo shell that Marlena fired from the space gun exited the muzzle at two and a half kilometers per second and streaked a meter above Main Street to impact Big Bart milliseconds later with enough kinetic energy to sink a battleship. It ripped through his backside armor and gutted his innards and punched a hole as big as his face—that obliterated his face—and spewed his components over Wiley's head and a tenth of a mile down Main, across Collins and Conrad Avenues and halfway to the Calibration Target Monolith. Bart's claws snapped off, his tracks splintered, his armored shell fissured, and flame and debris and smoke gushered everywhere.

The noise—oh, the SSC-generated noise! It was like a tornado and volcanic eruption at the same time, and somewhere in there I thought I heard an all-too-human scream. Instinctively, after the fact, I closed my eyes and ducked. And then there was ringing silence. I opened my eyes and raised my head.

Gasses dissipated and sparks died, and what remained of Big Bart was a charred, lifeless hulk.

The three survivors of Big Bart's gang sized me up. But before they could act, a door on a nearby building opened, and a pair of lenses peeped out. Then another door, and other eyes. A rover rolled out onto the street, and it was joined by a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

second and third. Soon there was a crowd. They all seemed to be carrying cords and blunt instruments.

When I turned around, Big Bart's cohorts were in rapid evaporation.

A small, dusty rover hobbled from the space gun control station toward me. It stopped a few yards short, and took in the piles of incandescently glowing scrap metal littering the street.

"Wow," she said.

"You took your time," I said.

"I wanted my aim to be perfect."

I glanced at the shattered carcass that used to contain Big Bart, and said the only thing that came to mind:

"Yep."

The lights abruptly faded from Marlena 1; the excitement had proven too much for the old girl, and she passed away, right then and there. But a minute later, Doc strolled around the corner, escorting a polished silver robot adorned with sparkling jewels and a billowing lace headdress that flopped vigorously with every swaying movement. Marlena 2—the Marlena I had always known—tackled Wiley and squeezed him with her claws and half-lifted him off the ground and almost gave him a dance-hall twirl.

"I've got something for you!" she declared.

She rolled back a foot and opened a compartment on her side. Out came a shiny piece of metal about two inches wide, in the shape of a star. It must have had a powerful magnet attached to the back, because when she placed it on Wiley's front, it stuck tenaciously.

"Brian, I want you to know," Marlena said, "you're my candidate for sheriff of Clavius Gulch. If your company won't let you keep Wiley, we'll get you another rover so you can stay here. You're going to be voted sheriff, Brian—even if I have to bribe every rover in town with free lubes for a year!"

"I—I have to think," I said, tilting my Clint-Eastwood hat back and regarding the crowd of curious telerobots gathered around us.

But part of me was already thinking I'd take the job. The events of the past day had sure been a lot more exciting than drilling for regolith samples. And Lester wouldn't mind serving as deputy. And who knew? Maybe the job of sheriff of Clavius Gulch came with a salary that could cover the rent and phone bill and even sustain my mocha habit.

But I wasn't ready to commit just then. I disconnected myself from her embrace and rolled away. My thoughts were a blur. I was still rattled by the chase and showdown, and the explosive end of Big Bart still rang in my ears. Just then, I didn't know where I was going, I just wanted to go away and think in peace.

But at the top of Cemetery Hill, I stopped and looked back at the town, aglow in the dying rays of the long lunar day. Marlena and the other rovers were still in the middle of Main Street, devotedly watching me. I had the strangest feeling.

I turned the other way again, and blinked in the afternoon Sun, which was almost touching the lunar horizon directly ahead.

And then I realized what was bugging me about the scene.

"Oh, Lord," I sighed.

I closed my eyes and shook my head—and groaned.

It wasn't because I was pondering humanity's future. It wasn't because I was pondering my personal career options.

I groaned because, unintentionally, I was acting out the biggest cliché of the Old West. I groaned because, by happenstance, I was heading *west*.

Which meant that, from the view of the townspeople of Clavius Gulch . . . Sheriff Wiley was riding off *into the sunset*. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE REFERENCE LIBRARY Tom Easton

The Myriad, R. M. Meluch, DAW, $23.95, 310 pp. (ISBN: 0-7564-0279-4).

Schism, Catherine Asaro, Tor, $25.95, 398 pp. (ISBN: 0-765-30951-3).

Hostile Takeover, Susan Shwartz, Tor, $24.95, 352 pp. (ISBN: 0-765-30461-9).

Crux, Albert E. Cowdrey, Tor, $24.95, 349 pp. (ISBN: 0-765-31037-6).

The Gods and Their Machines, Oisin McGann, Tor, $19.95, 237 pp. (ISBN: 0-765-31159-3).

Dog Warrior, Wen Spencer, Roc, $6.99, 306 pp. (ISBN: 0-451-45990-3).

Coyote Rising, Allen Steele, Ace, $23.95, 385 pp. (ISBN: 0-441-01205-1).

It has been over a decade since R. M. Meluch last earned plaudits for her work here, and I have no idea what she's been doing. But now she's back with **The Myriad**, the first volume in a new action-adventure series, "The Tour of the Merrimack," and it should appeal to anyone who enjoys resurgent Romans, ravening aliens, a noble and inspiring captain, a head-scratching puzzle, and an off-the-wall paradox.

Here's the back-story: As soon as Earth got FTL travel, the descendants of the ancient Romans emerged from their secret niches as doctors, lawyers, priests, and all the rest who just happen to know a bit of Latin and hied off to Palatine to found the new Roman Empire: thoroughly elitist, thoroughly tyrannical, and absolute anathema to the USA, which has the clout back home—except for the League of Earth Nations' (LEN) multicultural diversity nuts, who are absolutely sure that if everyone would just sit down and talk . . .

Well, maybe. But as soon as someone invented the res FTL communications tech, using it turned out to be ringing the dinner bell for the Hive, vast swarms of insectoid space-dwellers that loved to eat everything in sight. So meet Captain Farragut of the *Merrimack*, who has survived one Hive onslaught and is now hotfooting it toward—he hopes!—the Hive's home world. Augustus, an engineered Roman patterner (who processes vast amounts of data very quickly), has just boarded. And suddenly there's a globular cluster off the flank, with a minefield and three unusual, inhabited worlds right over yonder. Just as they're making contact and spotting the puzzle—an inscription that matches one, found on another world, that has been dated to be older than the universe—a LEN ship shows up to scold the clumsy, bloody-handed military for hashing things up as usual, not to mention for their barbaric hunt for the Hive. And then they use their res.

So it's up to Farragut and his doughty crew—as well as Augustus, natch—to save the day. They succeed, of course, and that's when the paradox heaves into view.

It wouldn't be too hard to take this

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

one apart if one wanted to be picky about science or logic or clichés, but what the hey. It's unabashed space opera, and it's great fun. Enjoy!

A year ago, with *Skyfall*, Catherine Asaro stepped back to the beginning of her Skolian saga to show how Roca met Eldrinson Valdoria. Roca was the daughter of the Skolian Imperialate's founder and mother of Kurj, a powerful warlord who craved war with the slave-trading, empath-tormenting Aristos. As the Minister of Foreign Affairs, Roca planned to cast a deciding vote against the war, but her son maneuvered to strand her on Skyfall, where Eldrinson saw her, was smitten, and spirited her away to fall in love. The result was a political disaster, but Eldrinson proved to be of the same genetic stock as Roca's own Ruby Dynasty, and Skolia needed Ruby genes, for only Ruby empaths could operate the ancient, star-spanning cyberweb that gave Skolia its chief advantage against the Aristos.

In due time, Roca and Eldrinson produced ten children—Keldric, Althor, Sauscony or Soz, Eldrin, Del-Kurj, Chaniece, Havyrl, Denric, Shannon, and Aniece Dyhianna. The names are familiar from the earlier books of the Saga, set later in time, when they play major roles. But at the time of **Schism**, they are yet young. Althor has gone off for Jagernaut training, and Soz yearns to follow him. But their father has other plans, which do not include letting her go. When she goes anyway, he pulls a classic "Never darken my doorstep again!" routine, which he soon regrets but cannot—pride forbids!—retract. So Shannon runs off to seek the Blue Dale Archers he is said to resemble, and distraught Papa hies off to chase him down, only to fall into the hands of an Aristo infiltrator.

Meanwhile, Soz is discovering that half-brother Kurj, now the military leader or Imperator of Skolia, has designated her and Althor as candidate successors. She finds it disturbing that he would set them against each other, but she still manages to blaze a fast track—loaded with demerits—through the Jagernaut academy. And when disaster strikes, Kurj displays a human side she and her family had not suspected.

Some disasters work out. Some do not. But if I give away too much, I will spoil your fun. Asaro has once more produced an entertaining yarn with a stronger emotive content than one usually sees. The fans she has won with her previous Saga volumes will be pleased, and even though this one is part of a series, it stands well enough on its own to bring more fans to the bookstore counter. Watch for it, and for the rest of the "Triad" subsaga it introduces.

Can an author who cannot be bothered to check basic facts be trusted to deliver a decent story? In **Hostile Takeover**, Susan Shwartz offends the knowledgeable by insisting that treating radiation poisoning, as by exposure to a solar storm, involves swallowing potassium iodide pills (KI) and undergoing a decontaminating shower. However, the shower does one any good only when one has been exposed to radioactive material that can be washed off, and a solar storm's radiation is dangerous because fast-moving particles damage cells inside the body. The particles will hit other things too, of course, and perhaps transmute ordinarily safe materials into radioactive ones, so the shower just might help a little. But most of the damage will be internal, where the shower can't reach. KI is used to protect the thyroid gland, which is very effective at glomming onto iodine in the blood and concentrating it in the gland, by flooding the body with nonradioactive, safe iodine, thus preventing radioactive iodine (I-131), such as can escape from a leaky nuclear power plant, from being concentrated.

Then she tells her reader that new arrivals at Vesta have their retinas scanned

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and recorded for identification purposes, and a few pages later, it's a corneal scan that unlocks a door. This might be no more than a typo which will disappear between the proofs I saw and the books that will appear in the store, but still . . .

At any rate, if you can get past the gaffes, you will find an interesting, exciting tale. Earth is dominated by heartless corporations and a "company store" economy. If you can't keep up with the interest on your debts—for college tuition, cosmetic surgery (gotta look good to get or keep a job!), health care, etc.—you either get frozen and shipped out to the colonies in the Belt and beyond, or you go into the spare parts bank. Heroine Caroline Cater (CC) Williams has clawed her way out of the underclass to a position as a hotshot financial analyst. Now she's on her way to Vesta to pin down a suspicious pattern of trades, leaving her fiancé behind and hoping furiously to do well, get a raise and a bonus, and keep from falling behind on her debts. There's a handsome military type, Marc, who's supposed to be giving her a hand. There's a mysterious bogey she spots while on a training exercise outside the ship. There's a hush-hush rendezvous. And once she reaches Vesta, the financial pattern points damningly at an old, old friend.

What's a girl to do? Well, she spots an equally old and quite treacherous rival sneaking through a door. When she gets an opportunity, she investigates. Pretty soon, she has a sore head, some *very* interesting pictures, and the cat is clawing its way merrily out of the bag.

And in the end . . . Shouldn't the guy *ask* first?

You'll have to read it to find out what that means.

Albert E. Cowdrey has been chief of the Special History Branch of the U.S. Army. His previous books have dealt with the history of military medicine, environmental history, and foreign policy. He has published short SF in one of the magazines. Now he gives us his first SF novel, **Crux**, with excellent results.

The basic notion is that some three centuries before the story, Earth erupted into global war—nuclear and bio. Almost all humans were killed. But there were colonies on the Moon and Mars, so eventually Earth was resettled. The new World City is Ulanor (in the vicinity of Ulan Bator), population is hugely shrunken compared to today, and the rulers of Earth—and the hundreds of colony worlds—are quite Stalinist in attitude and methods. Dissent is dealt with by extreme torture in the dens of the secret police. Freedom of speech is unheard of. And some people are unhappy about the situation.

So when the word gets out that Ulanor scientists have invented a machine that can send one back in time, a group called Crux sends an agent, Dyeva, to Earth to steal the machine and go back to prevent the "Time of Troubles" and thus stymie the birth of the present world. But, says Cowdrey, "The Great Tao loves irony. It loves to give people the exact opposite of what they're trying to achieve. It's a mean, laughing son of a bitch." It is therefore no surprise when Dyeva only ensures the Time of Troubles, while Stef, the agent sent back to stop her, gets posthumous hero's laurels. But the tale is by no means over, for now the government must decide to protect its roots in time and form an elite squad of timesurfers (the traditional Time Patrol). Hastings Mak applies, survives training, and must in due time stop another plot to change the past, as well as cope with schemes and conspiracies at home before finally discovering just how interconnected everything is.

And don't forget the Great Tao. It ain't done yet.

Cowdrey is a deft writer with a talent for characterization and a good feel for what history does to a society. I'd like to think that we are no longer capable of Stalinist atrocities, or that we will soon

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

grow beyond them, perhaps even by the end of this century, when Cowdrey sets the Time of Troubles. But disasters such as the Time can undo much progress. Let's hope it never happens.

Irish writer Oisin McGann's first novel, **The Gods and Their Machines**, is a heartfelt indictment of the way developed nations treat their less developed neighbors. It resonates particularly with the England-Ireland and Israel-Palestine conflicts and warns of what might happen elsewhere (e.g., US-Mexico). It also resonates with all those tales where a boy on one side of a conflict meets a girl on the other side, and then . . . There is as well a reminder of Barry Longyear's *Enemy Mine*, in which two foes meet and must depend on each other for survival.

McGann's developed world is Altima. It has wealth, industry, airplanes, and it occupies a plateau high above the "Fringelands," nations such as Bartokhrin whose people must suffer strip-mining, toxic waste dumps, and other side effects of the "high" ones' wealth. The arrogant Altimans see their neighbors as superstitious and primitive, good for naught but menial labor. The Bartokhrins see the Altimans as oppressors and send suicide warriors—saddled in a strange rite with the ghosts of those who cry out for revenge—into the Altiman cities.

Chamus Aronson is a teen-aged student of flying, the son and grandson of men who design and build planes for the Altiman air force. He lives to fly and dreams of fighters and bombers. He suffers a setback when a Bartokhrin terrorist kills the rest of his class, but he is soon in the air again. Unfortunately, he runs out of fuel over Bartokhrin and must set down in a field. Little does he know that a terrorist camp is nearby, or that the girl he runs into will turn him in.

But the girl, Riadni Mocranen, rebels when she learns that the terrorists will kill Chamus. Together they flee, with her acting the guide much like the Ariadne of myth. Meanwhile, the plots on both sides continue, while flashbacks reveal in Chamus's memories enough hints to create in the reader a sense of horror at what the Altimans plan to do to their neighbors. Unfortunately, what we think is about to happen is not quite what *is* about to happen, and the final clues are presented in a rush that makes Chamus's sudden shamuslike realization a bit of a surprise. Of course, he makes the right moral choice, commits himself to doing the right thing, and then . . .

Well. Many stories in this vein end with boy and girl in each other's arms and a promise of happily ever after, at least for them and perhaps for their families and nations. Not this time, though McGann has shown himself suspiciously fond of punning on precedent. So when at the very end Riadni gasps and cries, "Take me higher!" he may be playing one more round of Joycean double-entendre.

Recommended.

Wen Spencer just keeps getting better. **Dog Warrior** is the fourth installment in her Ukiah Oregon series. The backstory is that centuries ago, the alien Ontogard arrived on Earth, planning to infect local life forms and replace their cells with their own. The result of such an infection is a "Get." This is the perfect disguise for an invader. But among the Ontogard was a mutant rebel, Prime. He sabotaged the mission, killing most of the invaders. Before he died himself, he infected a local wolf who became Coyote and in due time infected enough humans to form the Pack, dedicated to warring against Hex, the surviving standard-issue Ontogard villain, and his numerous evil Gets. He also sired on a local woman of the Cayuse tribe our hero, Ukiah Oregon. In *Alien Taste* (reviewed here in February 2002), we learned that Ukiah had been a wolf child until caught in a trap and adopted, that he had the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ability to detect and analyze DNA the way we might a pungent odor, that when he is injured, lost blood or bits of flesh turn into small animals, and that he can recover from thoroughly mortal wounds. He also doesn't remember his origins, since memories run away with lost blood or flesh. He recovered some long-lost memories in *Tainted Trail* (December 2002), when he and his mentor/partner, Max Bennett, took their PI business, specializing in tracking missing persons, to Oregon. He gained more in *Bitter Waters* (October 2003), when he learned that the aliens had brought with them several strange machines, one of which created a drug—Invisible Red or Blissfire—that could force Ukiah into a breeding frenzy and another of which could manufacture a virus that would destroy humanity, that the Ontongard had stashed them, and that a murderous cult had captured them and was bent on destroying everyone whose blood could form mice—including Ukiah.

Dog Warrior opens when a stranger—Atticus Steele—sniffs blood in a highway rest stop and discovers Ukiah's body stuffed into a car trunk. Strangely, he feels he knows Ukiah, and soon all know that they are the same person, hacked into two long, long ago, healed back to wholeness, and gone their separate ways. But he doesn't know what Ukiah knows about the backstory. He and his lover Ru are just looking for an Invisible Red drug deal, and before long they are right in the thick of a war among the Pack, the Ontongard, and the cult, with the bodies piling up in the wings whenever they don't scurry off on little mouse feet. Since it's pretty hard to kill Ukiah, he's there too.

Ukiah's FBI-agent lover, Indigo, makes only occasional appearances. This one's for the guys (yup—that means Ru too). It's fast-paced and bloody, punctuated with gunfire, explosions, and fires, and it's even more of a page-turner than its predecessors.

It might even be the end of the series, but don't worry. Spencer is working on the sequel to *Tinker* (April 2004), and she doesn't seem about to quit.

Allen Steele's *Coyote* posited a US that had fallen prey to right-wing ideologues who had rewritten the Constitution, done away with the Bill of Rights, renamed the country the United Republic of America, given a Department of Internal Security the powers of East Germany's erstwhile *stasi* or the Soviet KGB, and interned dissident intellectuals (DIs), meaning any scientist, university faculty member, or educated person who dares to question the party line. The tyrants said they had brought America back to its roots, its true self, but a few folks decided to bail. They swiped a starship, the *URSS Alabama*, and hied off to colonize Coyote, a large moon of a gas giant. They were making a go of it too, despite problems, but then a new ship from Earth appeared in the sky. The good news was that the URA was gone. The bad news was that the replacement wasn't any better, and the Matriarchy expected the colonists to cooperate.

Considering their history, that wasn't very likely. But the *Alabama* colonists didn't have the wherewithal to fight. So they packed up and moved. The sequel, **Coyote Rising**, tells what happened next: Now the Matriarchy colony is having its own problems of overpopulation and unrest. Now it's trying to invade the *Alabama* folks' new territory. At the same time, freedom fighters and terrorists are coming into play, and in the end . . . Well, what do you do when you are truly free? Some people just need to be told what to do!

As usual, Steele tells an interesting story with a strong leavening of social commentary. Recommended.

SOMETHING DIFFERENT . . .

The other day I received a package of three audio books that may not be about

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to go anywhere. The publisher, Mike Segroves of Paperback Digital, says the idea is to make more science fiction, fantasy, and horror available in audio format than has been possible before by using MP3 compression technology to fit the massive audio files on just one or two CDs instead of six. So here are Charles de Lint's *Spirit in the Wires* ($14.95), John Ringo's and Julie Cochrane's *Cally's War* ($28.50), and Eric Flint's and Andrew Dennis's *1634: The Galileo Affair* ($19.95). You can order the disks from www.paperbackdigital.com or download them (45 minutes IF you have a cable modem) from either paperbackdigital.com or fictionwise.com.

Unfortunately . . . Where do most people listen to audio books? My wife does it in the car, and I suspect that the in-car market is significant. But MP3-CDs can be played only in an "MP3-enabled listening device such as a desktop computer or a portable MP3 player such as an Apple iPod." I tried one in the car, and it wouldn't play. The laptop and home desktop—it worked. The office desktop—nope. A portable CD player—nope. So it's chancy, and I don't see many people getting an MP3-enabled device just to listen to the disks (they haven't bought e-book readers, either). Nor do I see iPod users buying the disks—they're music folks, right?

Call me an old fuddy-duddy who can't see the wave of the future if you like, but I think this one's a bust. ■

IN TIMES TO COME

A topic currently in many people's thoughts is the problem of identity theft, which, thanks to new and improved information technology, has become an almost ubiquitous threat. Another, which some people *still* regard as too science-fictional to be a real concern (while others worry about it for nonsensical reasons) is human cloning: the copying (in a very limited way) of people. But suppose you put the two together and then go beyond, to a world in which *real* copying of people is quick, easy, and routine. "Identity theft" takes on a whole new meaning, and gives rise to such tangled webs as the one in "The Policeman's Daughter," Wil McCarthy's lead novella in our June issue.

Richard A. Lovett's fact article looks at the prospect for another form of tampering with human nature that's already getting a toehold. Athletes obsessed with winning have long looked to chemical helpers, but now they're beginning to really get down to basics, with "gene doping." Lovett, with coauthor Mark Niemann-Ross, also has a novelette about the increasingly blurry line between real and virtual life; and we'll have a mixed bag of other stories by such writers as John G. Hemry, Carl Frederick, and Uncle River.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

BRASS TACKS

Dear Dr. Schmidt,

"The Bambi Project" by Grey Rollins is a toe-tag liberal's knee-jerk wet dream that lowers the intellectual tone of your magazine. Most hunters hunt for meat and treat the property of others with respect, asking to hunt on posted land. Very few are poaching yahoos. Only the politically pompous and slack-brained would think that turning organically grown, lean red meat into dangerous game would inhibit hunting. It would only attract those who really do kill for the skins and heads. Just ask all the bear skin and cougar skin rugs, and the elephant-foot umbrella stands.

Sincerely,
Don Baker
Tulsa, OK

The author replies . . .

Ah, good morning, sir. Glad you could make it. I think I can promise you good hunting today. What? Oh, no sir. I doubt that you'll get a chance to bag a Kneejerkus Liberalus. *I know we're not supposed to speak ill of our clients, but what with radio demagogues, politicians, and rednecks ignoring other game in favor of* Liberalus *they've become quite rare. However, their ecological niche has been filled by* Kneejerkus Conservativus . . . *in fact, they've been multiplying so rapidly that they've become a positive nuisance. You'd be doing us a favor by reducing the surplus population of* Conservativus *a bit so that other species might stand a chance. Wait . . . wait . . . there's one now . . .*

Mr. Baker seems to have taken offense at my story. Curious. The last I heard, honorable hunters looked down on poachers. Perhaps that attitude is changing for the worse, like so many other things. Allow me to put *The Bambi Project* in perspective.

Item—I own land.

Item—On that land are deer.

Item—On that land are signs saying that hunting is prohibited.

Item—On that land there are also poachers.

I can't say how many poachers there are percentage-wise. But Mr. Baker's point that 'Most hunters . . . [ask] to hunt on posted land.' does not correlate with my experience, nor with the experience of any other land owner I know whose land is posted with NO HUNTING signs. In every case, bar none, the poachers simply assume that if they can get to the land that anything on it is theirs for the taking. Not once, not one single time, has anyone ever asked permission to hunt (or fish) on my land—they simply show up. Perhaps I should write a companion story about mutant trout.

Now, the party line is that poachers make up only an infinitesimal percentage of hunters. Whether that is so, I cannot say, but I can tell you that I have personally confronted roughly twenty poachers over the last ten or fifteen years. Given the miniscule amount of time that I am able to spend on my land, I do not doubt that there are many, many more that I never see.

As for his assertion that hunters ". . . treat the property of others with respect

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

. . ." I can barely keep from bitter laughter. Perhaps Mr. Baker would be so kind as to volunteer to perform trash detail, carrying out the drink bottles, beer cans, etc. left behind by the poachers. Perhaps he would also offer to chip in for repair and/or replacement for the vandalism and theft.

Not one of these poachers has ever said they are sorry. In fact, their attitude is that they're going to hunt on my land and that there's nothing that I can damned well do about it. Yes, they say this verbatim. The law means nothing to them, nor do concepts like manners or common decency.

I have also been threatened.

Given that, I think that I am well within my rights to portray poachers as oafs . . . or worse.

His ". . . hunt for meat . . ." phrase is mostly true, but still leaves begging the question of why I find turtles and other small animals dead and rotting. Turtles and squirrels are, in fact, edible, but are shot and left to die simply because they are there—not for food. What this says about the mentality of poachers I will leave as an exercise to the reader.

The local law enforcement agencies do not have the manpower to patrol my land in my absence. Thus it occurred to me that it might be interesting to equip the deer to defend themselves. Hence, *The Bambi Project.*

Dear Mr. Schmidt,

The wording of the ballot propositions is outrageous. It has always been outrageous—for as long as I've been eligible to vote, at the least. It's the same old story each and every election: I open up the pamphlet and invariably am assaulted by the same old "legal speak" which I never could understand. I read it once. Twice. Three times. Four times. Five times. It's like peeling back the leaves of a lead artichoke. Does Johnny Public *really know* what he's voting for?

Your editorial "Attack of the Giant Oxymorons" seems somehow related here. How about a spin-off? Something like "Attack of the Giant, Muddled, Vague, Pinheaded Bureaucratic Pen Pushers Who Leave The Public Scratching Their Heads For Yet Another Election Year." I bet it'll be a hit.

Yours truly,
Paul DeVinny ■

Chat online
with your favorite authors!

Please see our website, *www.analogsf.com*, for chat updates.

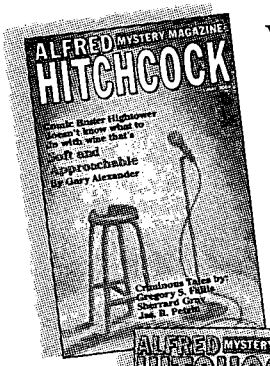
Go to **www.scifi.com/chat** or link to the chats via our home page (**www.analogsf.com**). Chats are held in conjunction with *Asimov's* and the Sci-fi Channel and are moderated by *Asimov's* contributing editor, Gardner Dozois.

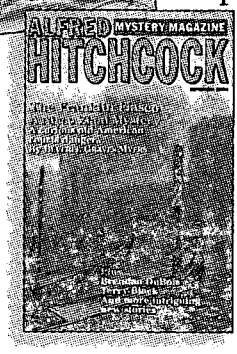
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

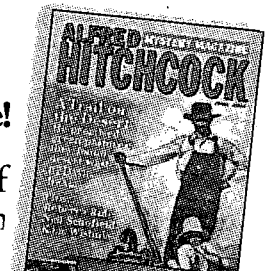
MYSTERY VALUE PACK

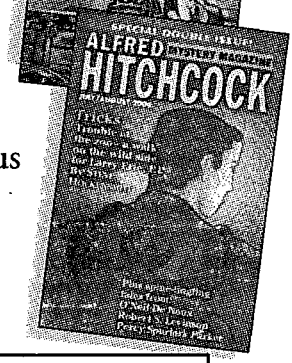
4 magazines for just $5.95!

Give yourself **chills** with our value pack of 4 best-loved issues of **Alfred Hitchcock's Mystery Magazine!**









You'll enjoy dozens of captivating tales from world-renowned masters of suspense and talented new writers alike — all for just $5.95 plus shipping.

You save 50% off the regular price.

It's easy to order. Just fill out the coupon below and mail it to us with your payment. **Your satisfaction is fully guaranteed!**

DELL MAGAZINES
Suite SM-100, 6 Prowitt Street, Norwalk, CT 06855-1220

☑ **YES!** Please send me my **Alfred Hitchcock's Mystery Magazine Value Pack.** I get 4 entertaining issues for just $5.95 plus $2 shipping and handling ($7.95 per pack, U.S. funds). My satisfaction is fully guaranteed! My payment of $_____ is enclosed.(AHPK04)

Name: _____
(Please print)

Address: _____

City: _____

State: _____ **ZIP:** _____

Please make checks payable to Dell Magazines Direct. Allow 8 weeks for delivery. Magazines are back issues shipped together in one package. To keep prices low we cannot make custom orders. Add $4 additional shipping and handling for delivery outside the U.S.A.
Offer expires 9/30/06.

35C-NQHVL2

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

CLASSIFIED MARKETPLACE

Analog May '05

Advertise in the world's leading science fiction magazines with our Analog/Asimov's combined classified section. Ad rates per issue: $2.95 per word (10 word minimum), $125 per column inch (2.25 inch maximum). SPECIAL INTRODUCTORY OFFER: Buy two ads and receive a third ad FREE. Send orders to: Dell Magazines, Classified Department, 475 Park Ave. S., 11th Floor, New York, NY 10016. Direct inquires to: (212) 686-7188; Fax (212) 686-7414 or email: classifiedads@dellmagazines.com

AUDIO/VIDEO

Audiobooks, Niven, LeGuin, Willis, Baxter, Egan, Sterling, Reed, Etc. www.audiotexttapes.net.

JESUS PROJECT. First (audio) tape free: P.O. Box 121, El Dorado, OK 73537

Nova Audio. Scifi Short stories by Robert Silverberg, Sarah Hoyt, Cecilia Tan, & more. http://www.nova-audio.com/

BOOKS/PUBLICATIONS

BUYING SCIENCE FICTION magazines, book collections. Will travel for large accumulations. Bowman, Box 167, Carmel, IN 46082.

CHRISTIAN SF MAGAZINE via web or CD. http://www.gateway-sf-magazine.com

ELECTRONIC CIRCUITS FOR THE EVIL GENIUS ISBN 0071448810 www.books.mcgraw-hill.com/authors/cutcher

In the eons-long warfare between bacteria and mankind, what would the world be like if bacteria won? *The Shadow of Armageddon* by Jim LeMay. http://www.silverlakepublishing.com/catalog/shadow.html

PUBLISH YOUR BOOK ONLINE, Third Millennium Publishing, a cooperative of online writers and resources, http://3mpub.com

The Combat Poets of Maya, a novel by Bill Johnson in the vein of Hitchhikers Guide to the Galaxy. Info, www.combatpoetsofmaya, www.storyispromise.com

THE STEEL OF ENADIA, Explore a world of wizards, witches, and beasts in the award-winning fantasy debut by Kevin Hile (www.kevinhile.com).

BOOKS/PUBLICATIONS

The universe has a great secret. Read *Life Everlasting*. Visit henryblanchard.com

Writers Wanted. 21st Century Pulp Fiction. www.digitalpulp.org

INSTRUCTION

Book Editing - Sci Fi & Fantasy Book-Editing.com SciFiEditor.com

ALPHA Young Writers' Workshop. Learn from professional Science Fiction/Fantasy/Horror writers, editors. U-Pitt Greensburg, Pennsylvania, July 6-15, 2005. Application, story deadline 3/31. http://alpha.spellcaster.org

MISCELLANEOUS

500 CARS FROM $500! Police Impounds. Hondas, Chevys, Jeeps, etc. For listings call now! 1-800-473-7523 ext. 5103

HOMES FROM $10,000 Foreclosures, Repos & Bankruptcies For listings call now! 1-800-473-8169 ext. 5104

$10! TVs FROM $10! Police Seized Property! For Information Call 1-800-473-8511 ext. 5105

UNUSUAL ITEMS

ORIGINAL SYMBOLIC ART. MUGS SHIRTS BOXES ETC www.cafeshops.com/evocogeomics

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

UPCOMING EVENTS Anthony Lewis

20–22 May 2005
MOBICON 8 (Gulf Coast conference) at Airport Plaza Hotel, Mobile AL. Guests: Bill Blair, David Beauchamp, Glenda Finkelstein. Registration: $35 until 1 May 2005, then $40. Info: www.mobicon.org; Mobicon, Box 161632, Mobile AL 36616-2632.

27–29 May 2005
CONQUEST 36 (Kansas City SF conference) at Kansas City MO. Guest of Honor: Joe Haldeman. Fan Guests of Honor: Les & Jeanette Roth. Artist Guest of Honor: Theresa Mather. TM: George R.R. Martin. Registration: $35 until 28 March 2005, then $40. Info: joyce@downing.net; www.kcsciencefiction.org/con36.htm; ConQuesT 36, Box 36212, Kansas City MO 64171.

27–29 May 2005
OASIS 18 (Orlando SF conference) at Radisson Plaza Hotel, Orlando FL. Guest of Honor: Jane Lindskold. Registration: $25 until 30 April 2005, $30 at door. Info: oasfis@sff.net; www.oasfis.org/oasis_18.html; OASFiS, Box 592905, Orlando FL 32859-2905.

27–30 May 2005
BALTICON 39 (Baltimore area SF conference) at Baltimore MD. Info: balticoninfo@balticon.org; www.balticon.org; Balticon, Box 686, Baltimore MD 21203-0686; (410) 563-2727; fax: (410) 879-3602.

4–8 August 2005
INTERACTION (63rd World Science Fiction Convention) at Scottish Exhibition and Conference Centre, Moat House & City Inn Hotels, Glasgow, Scotland. Guests of Honor: Robert Sheckley, Jane Yolen, Greg Pickersgill, Lars-Olov Strandberg. Registration until 30 November 2004: Attending USD170/GBP95/EUR145, Supporting USD45/GBP30/EUR45; Child's USD50/GBP32/EUR50. This is the SF universe's annual get-together. Professionals and readers from all over the world will be in attendance. Talks, panels, films, fancy dress competition—the works. Info: Interaction, 379 Myrtle Road, Sheffield, South Yorkshire S2 3HQ, U.K. or Interaction, P.O. Box 58009, Louisville, KY 40268-0009; info@interaction.worldcon.org.uk; www.interaction.worldcon.org.uk.

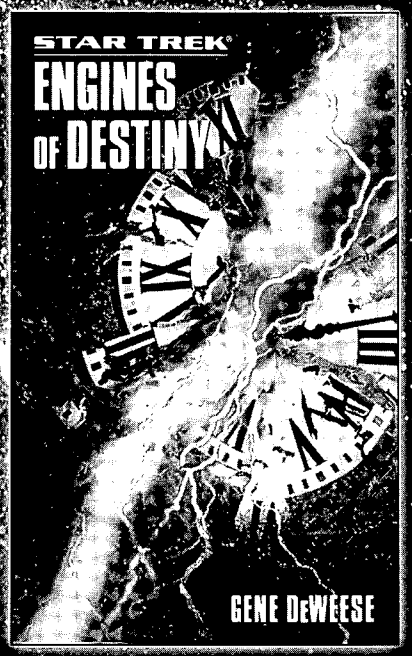
1–5 September 2005
CASCADIACON (North American Science Fiction Convention/NASFiC) at Seattle Airport Hilton & Conference Center, Seattle WA. Guest of Honor: Fred Saberhagen. Artist Guest of Honor: Liz Danforth. Editor Guest of Honor: Toni Weisskopf. Fan Guest of Honor: Kevin Standlee. Science Guest of Honor: Marc Abrahams. Registration: to be announced. Info: webmaster@cascadiacon.org; www/cascadiacon.org; Cascadia Con, Seattle NASFiC, Box 1066, Seattle WA 98111.

Running a convention? If your convention has a telephone number, fax number, e-mail address, or web page URL, please let us know so that we can publish this information. We must have your information in hand SIX months before the date of your convention.■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Blood and Honor. Loyalty and Destiny.

When the crew of the Klingon warship *I.K.S. Gorkon* learn that a mysterious alien fleet is massing in an uncharted sector of space, Captain Klag must determine who this new enemy is—before the empire is threatened.



Montgomery Scott returns from the *U.S.S. Enterprise*™ of the future to save Jim Kirk's life—a plan that, if successful, will put the past, present, and future of the galaxy at risk.

www.simonsays.com
www.startrek.com

STAR TREK

Also available as eBooks.

Published by Pocket Books
A Division of Simon & Schuster
A VIACOM COMPANY

™, ®, & © 2005 Paramount Pictures. All Rights Reserved. STAR TREK and related marks are trademarks of Paramount Pictures. Pocket Books Authorized User.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Join the first

Dell MAGAZINES

SCIENCE FICTION CRUISE

From the Publishers of Analog and Asimov's Science Fiction Magazines

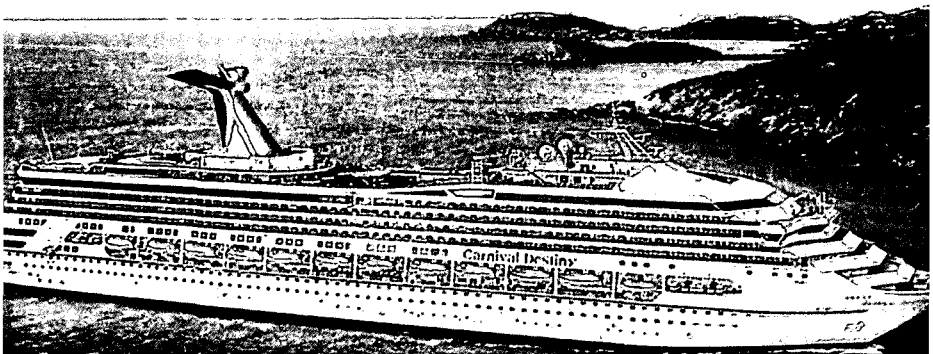
May 21-28, 2005, on the *Carnival Glory*

Enjoy the pleasures of a Caribbean cruise with your favorite authors, while visiting beautiful ports of call in Key West, Belize, Cozumel, and the Yucatan.

Call Toll-Free 1-800-446-8961
or visit our website at www.sciencefictioncruise.com

THE FIRST 50 PEOPLE TO SIGN UP WILL HAVE DINNER ONE EVENING WITH THE AUTHOR OR EDITOR OF THEIR CHOICE.

- KEVIN J. ANDERSON
- GARDNER DOZOIS
- JAMES PATRICK KELLY
- REBECCA MOESTA
- ROBERT J. SAWYER
- STANLEY SCHMIDT
- SHEILA WILLIAMS
- CONNIE WILLIS



YOUR EXCLUSIVE PACKAGE

Cruise Aboard Carnival Cruise Line's *Carnival Glory*

Two Private Cocktail Parties with Authors and Editors

Dinner with an Author or Editor

Panels & Readings

Writing Workshops

Connie Willis on Comedy

Play the Mafia Party Game with James Patrick Kelly

FOR MORE INFORMATION,
VISIT US ONLINE AT WWW.SCIENCEFICTIONCRUISE.COM

Special guests are subject to change without notice

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED